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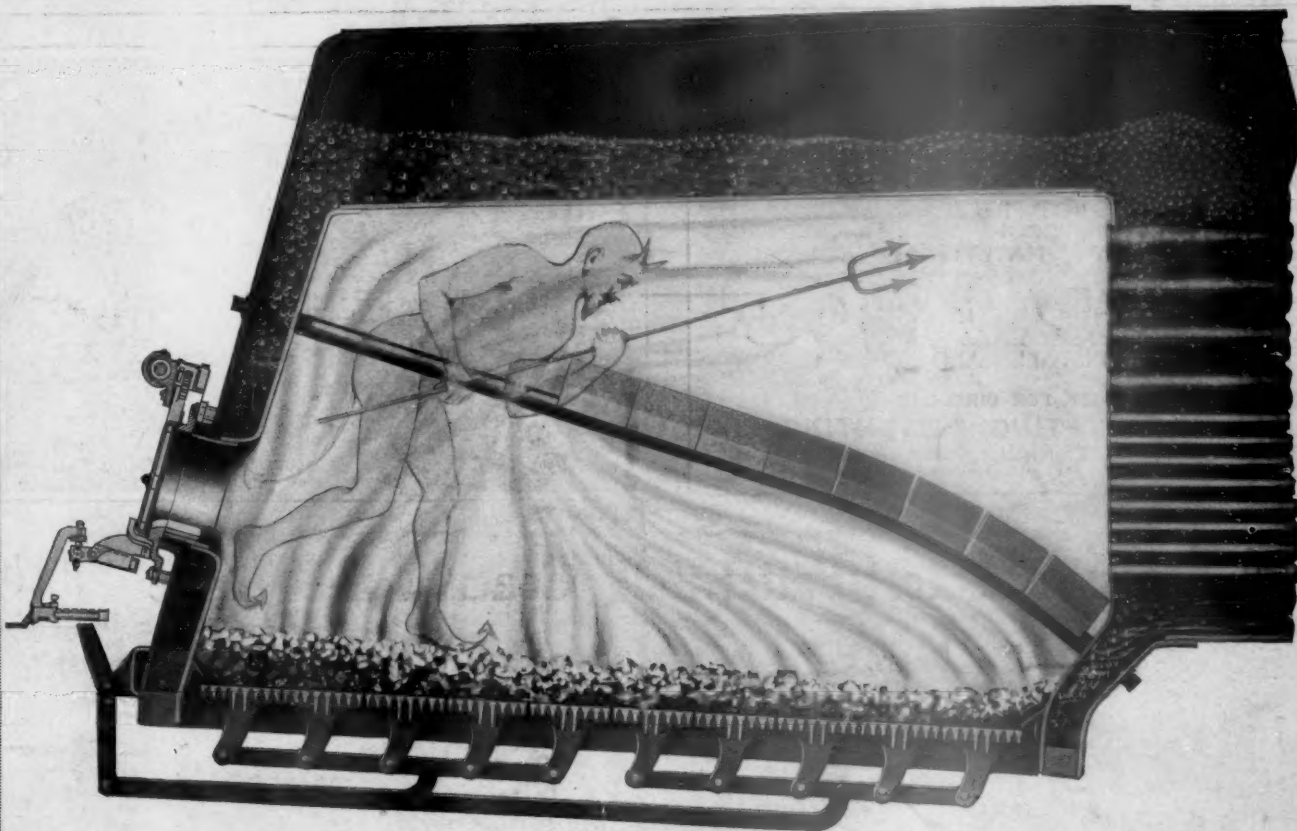
Railway Age

FIRST HALF OF 1919—No. 11

NEW YORK—MARCH 14, 1919—CHICAGO

SIXTY-FOURTH YEAR

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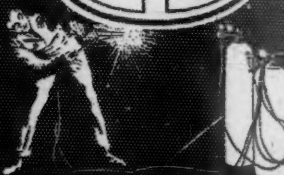
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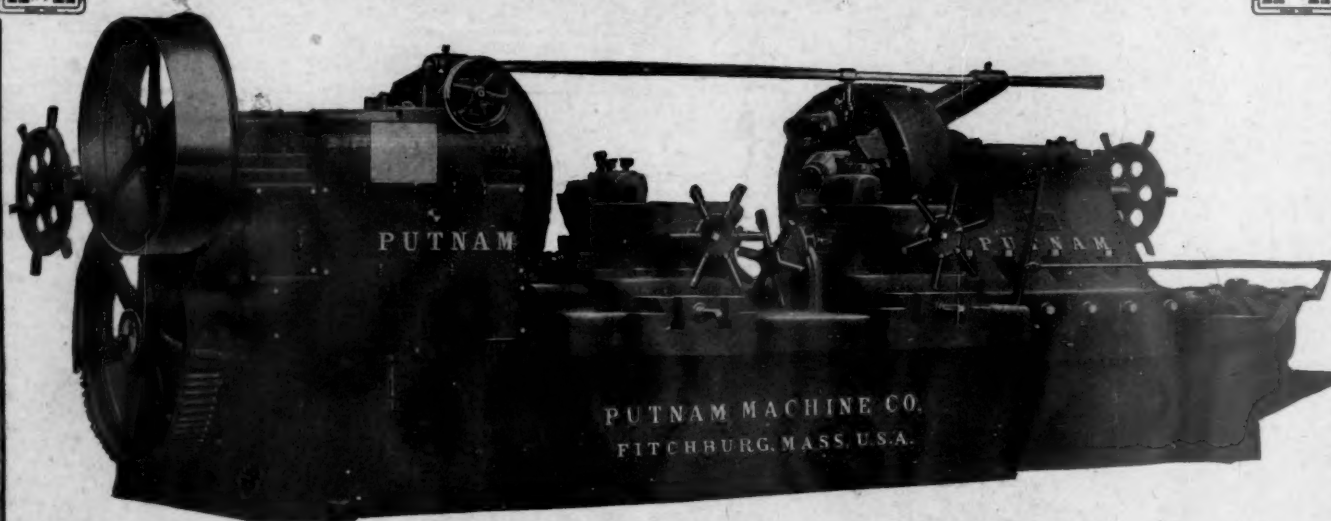
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EDITORIAL

Railway Age

The Grand Trunk Pacific has apparently been put into the hands of a receiver, without having defaulted on its outstanding obligations. The interest due March 1, was paid, but on March 6, the vice-president of the Grand

Receivership for the Grand Trunk Pacific

Trunk Pacific notified Sir Thomas White, acting premier of Canada, that the company would, owing to the lack of funds, have to discontinue operation after March 10. An application for a receiver in the ordinary way, could not be made, but acting under the War Measures Act, orders in council were passed, appointing J. D. Reid, Minister of Railways, as receiver for the Grand Trunk Pacific. At present the Grand Trunk, which is a parent company to the Grand Trunk Pacific, and guarantor of its second mortgages and Lake Superior branch bonds, is conducting negotiations with the Canadian Government, looking to some settlement of the Grand Trunk Pacific situation. The first mortgage bonds of the Grand Trunk Pacific are guaranteed by the Canadian Government and some of its branch line bonds by the provinces. Advocates of government ownership in Canada have been urging the government to take over both the Grand Trunk Pacific and the Grand Trunk, and the present receivership of the Grand Trunk Pacific is apparently a countermove on the part of the government to a threat of its discontinuance of operation in the game which is being played out in Canada.

One of the most interesting stories that will be written about the participation of the United States in the World War will

A Lesson in Efficiency

be the rapidity with which large numbers of our soldiers were given practical instruction in different vocations. An important part was taken in this work by several men who have been interested in industrial education in the railway and railway supply field. Railroad managements can well afford to study this development with a view to making use of it within their own organizations but to a much greater extent than was possible under the emergency conditions that confronted the upbuilding of the army. The *Railway Age* has, for a number of years, consistently advocated the necessity of giving more attention to the education and training of employees in all departments. The railroads of this country can well afford to be proud of the class of service they have given to their patrons in the past, and at fairly low rates compared with those of other countries. The higher wage scales, the greater cost of materials and a more exacting public promise to interfere with the continuance of this record unless steps can be taken to secure better service from each one of the individual employees. There is no question but what railroad men as a class want to do their work in a way that will reflect credit upon their performance. The difficulty is that they are so scattered and have had so little detailed instruction as to the best methods of performing their duties. The remarkable results that have been secured by safety first, loss and damage and conservation campaigns of various sorts give some promise of what might be accomplished if every man understood thoroughly and exactly how he was expected to do his work and

realized that some check was being placed upon his performance and that he would secure credit for giving the best possible service. The leaders of the more progressive industries and corporations have awakened to the necessity for training their employees more thoroughly and one of the most promising developments which is to be expected in the railroad field in the period immediately before us is in extending the work that has already been so well started in a few departments of some roads and has been carried forward to a greater or less degree by many of the larger industrial companies.

A few weeks ago suburban towns tributary to Chicago were holding meetings to denounce the proposed increases in the

The Same Old Pork Barrel

cost of commutation tickets. A short time later a serious grade crossing accident in one of these towns led to repeated and emphatic expression of the need for separating the grades of the streets from that of the railway supplying the rapid transit service. Of course it did not enter the minds of any of these indignant citizens that there could be any relation between such a non-income-producing investment and a fair rate for suburban tickets. Whether a public utility is controlled by government or by private parties the viewpoint of the average citizen is the same—that it is an opulent institution that can well afford to spend unlimited amounts for local improvements. Whether the desired end is a palatial post office or an extensive track elevation project, the doctrine of the pork barrel functions exactly the same. Under private management of the roads there is at least one obstacle to the unlimited operation of this demand for expenditures, namely, the "selfishly" interested owners, and any plan for the solution of the railway problem which does not introduce some factor vitally interested in the economical management of the properties, will lead to financial disaster.

However valuable may be any measures which the Railroad Administration may adopt to enable it to get along temporarily without another appropriation, the facts will still remain that these

No Palliatives Will Solve the Problem

measures will be but palliatives and that there will continue to be great need for an early extra session of Congress to provide the Railroad Administration with funds and to find a final solution of the entire railroad problem. In spite of all the efforts the Railroad Administration is making, it is an indisputable fact that the existing railway situation is depressing industry and causing widespread unemployment. Railway purchases are very small while, for the welfare of the nation, they ought to be very large, and the amount of maintenance and improvement work being done is far less than it should be. A protraction of present conditions will be disastrous to the country during the period of readjustment, and perhaps even more disastrous when the time for a resumption of active business comes. There have been great mistakes made and great offenses committed under private operation of railways; but never did the private managements commit offenses so

inimical to the public welfare as are some of the things that have been done—and some that have not been done—under government control.

A series of interesting and practical road tests with a superheater locomotive was made by fuel supervisor F. P. Roesch on the Minneapolis, St. Paul & Sault Ste. Marie to determine the fuel loss occasioned by stopping up superheater flues. A Consolidation type locomotive, having an evaporating surface of 3,000

sq. ft. and a 36-unit superheater, was used for the tests. By means of an electric pyrometer with the thermo-couple inserted in the outside steam pipe about six inches above the steam chest, the amount of superheat in the steam was determined. Various tests were made with different numbers of superheater flues plugged and the amount of superheat noted. The results showed a constantly decreasing amount of superheat obtained for various numbers of flues plugged, amounting to as great a loss as 95 deg. superheat with 18 flues plugged, and showed that in general for every 10 deg. loss in superheat there was an accompanying $2\frac{1}{2}$ per cent loss in fuel. With seven flues plugged there was a fuel loss of nearly three per cent and this increased at a nearly constant rate to about 25 per cent when 18 of the flues were plugged. These tests show quite clearly the losses occasioned by improperly maintained boilers and indicate the necessity for keeping superheater flues clean. The engine men operating locomotives equipped with pyrometers may readily determine the loss in fuel when the superheat is not being maintained to the proper degree. This information should be brought to their attention and to the attention of the roundhouse men, that they may better realize what dirty superheated flues mean.

Tendency to Reduce Centralization

SINCE THE FIRST of the year, it has been apparent that the Railroad Administration has been trying to restore railway operation and service to a normal condition. In his recent testimony before one of the House committees, Director General Hines stated that this policy is being followed, and indicated that it is being done largely because the railways may in the near future be restored to their owners. Director of Operation Tyler has ordered the relocation of equipment more nearly in accordance with its ownership. The purchase of coal has been largely decentralized by putting it principally in the hands of the officers of the individual lines. Many of the inspectors who were sent out in such large numbers from Washington last year and who went behind the backs and over the heads of responsible operating officers, have been withdrawn or required to pay more regard to the wishes of the regional directors and federal managers. The regional directors are being given more complete authority in their respective territories, and are in turn giving more authority to the district managers and federal managers. While this general policy is wise because of the probable return of the railways to private operation, it would also be wise if government operation were to be continued. It would have been as wise last year as it is this year.

If Mr McAdoo had been less bent on carrying out his theory of "unification" and more bent on getting the best possible results by the use of tested and practical methods, the operating expenses of the railways in 1918 would have been some hundreds of millions less than they were. Lord Shaughnessy, chairman of the Canadian Pacific, issued a warning regarding the danger of over-centralization under

government control in this country immediately after it was adopted. We published his warning in our issue of January 11, 1918, and an editorial supplementing it in our issue of January 18, 1918. The policy which should have been carefully avoided was the very one which Mr. McAdoo adopted. Seldom was even a small railway system given a more over-centralized organization than that which Mr. McAdoo established on the railways of the United States. The results speak for themselves and speak loudly. Now that railway men are in practically complete charge, they naturally are trying to improve results by reducing centralization. They can do a great deal more decentralizing yet with great advantage.

It Might Have Been Worse

THE FALLING OFF of railway traffic and the open winter have produced such a marked change in the relation between the amount of business offered the roads and their ability to handle it, that any representations made at the present time regarding the inadequacy of railway facilities in this country are somewhat discredited. In contemplating our part in the successful prosecution of the war, the demonstrated ability of the railroads to haul goods to port faster than they could be taken away by the shipping tends to bolster up a feeling of complacency. We muddled through all right, and, as we won't have another war for a long time, why worry?

Our experience in the European war failed, in a measure, as an object lesson on the need of larger railway transportation facilities from the fact that the emergent burden of war imposed on the railroads differed only in terms of magnitude from that of peace times. Points of maximum traffic density in pre-war times remained points of great traffic movement under war conditions. The business imposed was just the kind that the roads were best able to handle. It called for the least possible flexibility in the use of the transportation machine. The principal destination of all war traffic was the North Atlantic seaboard, which is far better provided with rail lines from the interior than any other frontier. Moreover, the center of manufacture is located closer to the Atlantic than to any other coast, so the train haul was far shorter than to any other border of the country.

How different would be the situation if we were compelled to despatch an enormous war traffic to any of our other frontiers! Some idea of the differences between the transportation facilities available on the Pacific coast or the Mexican border, for example, and on the North Atlantic seaboard may be gained from the table below showing miles of main line in the three groups of border States:

NORTH ATLANTIC COAST			
State	Mileage of lines	Area sq. mi.	Miles of line per 100 sq. mi.
New York	8,404	47,654	17.6
Massachusetts	2,139	8,039	26.6
Rhode Island	206	1,067	19.3
Connecticut	1,000	4,820	20.8
Pennsylvania	11,619	44,832	25.9
New Jersey	2,344	7,514	31.2
West Virginia	4,008	24,022	16.7
Virginia	4,792	40,262	11.9
Maryland	1,418	9,941	14.3
	35,930	188,151	19.1
PACIFIC COAST			
Washington	5,686	66,836	8.5
Oregon	3,226	95,607	3.4
California	8,439	155,652	5.4
	17,351	318,095	5.5
MEXICAN BORDER			
Texas	15,832	262,398	6.0
New Mexico	3,038	122,503	2.5
Arizona	2,416	113,810	2.1
	21,286	498,711	4.3

The territory tributary to the ports between Boston and Norfolk, inclusive, has 19.1 miles of rail lines per 100 miles of territory, while the Pacific Coast States have only 5.5 miles, and those on the Mexican border only 4.3 miles. But this is not the whole story. Most of the trunk lines running to the Atlantic Coast are multiple track lines with extensive trackage in sidings and yards, while the lines leading to other frontiers, with but few exceptions, are single track lines with but limited terminal development. Moreover, the delivery of the average ton of freight to these termini would entail an average haul many times as long as that for the war materials shipped to France or England last year.

It is clear from these considerations that the ability of the American railroads to handle the traffic of a military campaign of first magnitude to any other border of this country than the Atlantic seaboard cannot be measured by the ability they showed in handling the traffic of the European war. Under the policy to which the railroads of the country have been subjected, whereby they have not been able to earn reasonable returns on their investments, except during periods of great prosperity, the expansion of railway facilities has necessarily been limited. The Eastern lines have much greater capacity than the Southern or Western lines because they had reached a high state of development before the policy of restrictive regulation was adopted; and yet they still need a great enlargement of facilities. The capacity of the Western and Southern lines will be slow indeed, becoming equal to that of the Eastern lines under a studied policy of restriction; and yet failure adequately to develop them might prove some time to have been a colossal blunder from a military as well as an industrial point of view.

Railway Labor Under Private Operation

IT IS EVIDENT that if needed legislation can be secured the railways will be restored to private operation in a comparatively short time. If the welfare of the nation is given paramount consideration they will be restored to both private control and operation before the end of this year. In anticipation of this change the Railroad Administration is adopting important measures to restore normal conditions of traffic movement and of operation.

Some of the most important and difficult problems which will have to be solved when private management is resumed will be presented by the necessity of establishing good working relations between the managements and the employees of the railways. Most of those who are now in direct charge of operation for the government will be continued in direct charge by the companies. It should be the policy of the operating executives, with the approval and support of the Railroad Administration, to take steps while the railways are still in the hands of the government to make it as easy as practicable after private operation is resumed for the managements and the employees to work together harmoniously and in such a way as will promote the best interests of the companies, the employees and the public.

When government control was adopted only a part of the employees were organized. Under government control practically all have become organized. This is a change which nobody should regret. The labor union is just as characteristic, as desirable, and even as necessary a development of modern industry as the corporation. One is an organization to promote the interests of labor; the other an organization to promote the interests of capital. In each case organization gives power. This power can be abused in either case with results that will be harmful to the public, or so used that it will promote the welfare of the public. If in either case the power is abused the results will in the long run be harmful to the public and to those who possess and abuse it. Recent devel-

opments throughout a large part of the world have indicated that strong and ably led labor unions will prove to be civilization's principal safeguard against the ruin and crimes of bolshevism. In any event, almost all classes of railway employees have become organized and their unions probably have come to stay. Future efforts of railway managements should be directed, not toward destroying the unions, either old or new, but toward reaching understandings with them which will protect and promote the interests of all concerned.

Labor on railways, like labor in other industries, is going to demand shorter hours of work and better working conditions. It is going to demand a voice in the settlement of all questions the determination of which will affect the welfare, and even the sensibilities, of working people. And why should it not have a voice in their settlement? The employing class, including both the owners of capital and the officers who have managed industries on behalf of the owners, has taken too narrow a view of the rights of labor in the past. Doubtless at the present time a large part of the workers have an exaggerated view of their rights and mistaken opinions regarding what will promote their welfare. But the employed class as well as the employing class is vitally affected by the way in which industry is managed. It is benefited if industry is well managed and injured if industry is ill managed; and, as a matter of fact, the principal criterion of whether an industry is well or ill managed should be the effects produced upon the workers in it, since they greatly outnumber those who own industry and those who represent the owners in the management.

Labor's demands for a more influential voice in the management of industry will have to be heeded in the long run whether employers wish to heed them or not. The exact means by which labor shall be given a more influential voice in management remain to be determined. Its representation may take the form of members of boards of directors. It may take the form of works committees representing the various unions. One of the principal tests of the ability of the manager of an industry in future will be the success he has in taking labor into the management, in getting its point of view, in distinguishing between what is reasonable and what is unreasonable in its demands, in making labor itself distinguish between the reasonable and unreasonable, and in gaining its confidence and support in carrying out policies which will inure to its benefit as well as to that of the owners of the industry. Perhaps in the long run labor itself will become the owner of many or most industries through the initiation of profit-sharing or other plans. Who knows?

The difficulty of solving the problem of restoring the railways to their owners is largely due to the immense advances in wages which have been granted under government control. The opposition of many employees to the restoration of private operation is chiefly due to the fear that the present wages will not be maintained. We have never known any representative of the owners of the railways to advocate, either in public or private, general reductions of the existing wages. It would appear, however, from the statistics of current earnings and expenses, that wages must be reduced, or rates must be advanced, or there must be a great increase in the efficiency of operation. From the standpoint of labor, which of these policies is preferable? Certainly not a reduction of wages. Also, certainly not another advance of rates. Advances of rates, like advances in prices, increase the cost of living of all classes of the people, including railway employees. The welfare of railway employees as well as of all other classes, will be best promoted by increased efficiency, and consequent increased economy, of operation.

In the past the securing of increases of efficiency has been regarded as solely the function of the managers—that is, of the owners and of the officers placed by them in charge of the properties. No such increases of efficiency as have been

gained in the past can be gained in future by the owners and officers alone. For them to attempt to gain them alone would be constantly to antagonize labor, and labor is becoming so strongly organized that methods to increase efficiency will become increasingly difficult to introduce over its opposition. The co-operation of labor must be secured, and this is the best of all reasons for adopting plans for giving it a voice in management. Labor does not understand the essentials of efficient operation. The main reason why it does not is that it has never had opportunity to take part in or study management and thereby learn the essentials of efficiency. Labor must be given opportunity to be taught these things by its own leaders and representatives, and its leaders and representatives can be equipped to teach them only by being brought in close contact with the problems of management and getting experience in their actual solution.

Labor has been given a larger part in railway management under government control than it formerly had under private control. It cannot be said that the results thus far produced have been good. The abolition of piece work and other measures have been adopted, which have tended to reduce efficiency and increase expenses. But undoubtedly these things have been mainly due to the fact that because of the want of study and experience labor has not understood the essentials of efficient operation or the injurious effects which in the long run inefficient operation must have upon labor itself. In the long run there will be only one way to prevent such results. This will be to give labor an opportunity to learn by actual experience.

Some years ago the "safety first" movement was started on the railroads by the organization of committees of both officers and employees to study and remedy the conditions which caused accidents. The results gained were not as great as could have been desired, but that substantial results were gained, and that they were good, is beyond question. Equally harmonious and energetic co-operation between the officers and employees to promote efficiency must be obtained if greatly increased efficiency is to be secured. The main problem of railroad management in the future will be to secure the harmonious and energetic co-operation of officers and employees in increasing efficiency. The owners and managers of the railways and the leaders of the employees cannot begin too soon, for the good of all concerned, to confer with each other regarding the best means of bringing this co-operation to pass.

Mr. Hines' Immensely Difficult Task

NO PUBLIC OFFICIAL in the United States deserves and needs the assistance of all classes of people more, or perhaps so much, at the present time as the director general of railroads, Walker D. Hines. He deserves the support of all, because, at great personal sacrifice and in an effort to render a public service, he is trying not only with ability, but with rare courage and resolution, to carry the railways through a most trying and difficult period.

Mr. Hines needs the support of all, because without their support in the present emergency no man could perform successfully the task imposed upon him and for the developments of which he has not been responsible.

Mr. Hines expected, and had reason and a right to expect, that Congress would pass at its last session the bill creating a new revolving fund of \$750,000,000 for the Railroad Administration. Nobody seriously questioned that that fund ought to be provided. It was needed to enable the government to fulfill obligations which the Railroad Administration had assumed in conformity with law. The bill was defeated in an attempt to accomplish certain purposes which had no relationship to its intrinsic merits.

The director general was confronted already by a multiplicity of very difficult problems. The uncertainty regarding the future of the railways was destroying the morale of the railroad organizations. Operating expenses were rapidly increasing, largely because of policies adopted by Mr. Hines' predecessor, while traffic and earnings were declining. In consequence, net earnings had fallen to a very low basis. The train service employees, one of the strongest and most important groups of the employees of the railways, were pressing for a large advance in wages and for a settlement of the question of time and a half for overtime. Even if the railroad appropriation bill had been passed, the director general's task of operating the railways satisfactorily and at the same time carrying out even a small program of additions and betterments would have been extremely difficult.

The failure to pass the railroad appropriation bill, coming at a time when, even without this, the problems presented to the Railroad Administration were so numerous and so difficult, would result in a national calamity unless the director general should show enough ability and courage to meet the crisis presented and could get the support from various sources that he imperatively requires. He needs the support of railway labor, which has been very generously treated under government operation. He needs the support of every railway officer, for with prices and wages so high, the efficient operation of the railroads is almost as essential to the national welfare now as it was during the war. He especially needs the support of all the large financial interests of the country. The government is obligated to pay the railroad companies the standard returns guaranteed by the law. If the financial institutions will advance to the railroad companies the money required to provide for betterments and additions and the railway companies will in turn advance it to the government it will be possible to go on with the program of improvements which has been outlined and thereby prevent the railways from becoming a greater cause than they already are of industrial depression and unemployment.

But will the financial institutions advance the railroad companies the needed capital? They will advance capital to those whose credit is strong. The case of those whose credit is weak is more dubious. If the companies can and do borrow the needed money they will have to pay interest on it, and, in many cases, a high rate of interest. Will the government be willing to pay to the companies as high a rate of interest for advances they may make to it as the companies will have to pay to the banks? There has been a lot of squabbling about the rate of interest that the government should pay to the companies. It would be manifestly unfair for the government, under the peculiar conditions now existing, to ask the railway companies to borrow money and then loan it to the government to carry on the government's work at rates of interest less than the railway companies must pay for it.

The government took control of the railroads to solve the pressing railroad financial problem. It certainly is a striking fact that the companies probably will now have to go into the market and borrow money to enable the government to handle the business.

Since the railways are under government control, and since the problems presented are so numerous and difficult, the country is fortunate in having in the position of director general a man of Mr. Hines' resourcefulness, courage and ability, and with his valuable experience under private railway control in handling railway financial matters. If he does not succeed in solving all the problems presented in a way satisfactory to the public he will be entirely justified in saying that no man could have satisfactorily solved all of them. If he does succeed in solving them in a measurably satisfactory way it will be a great achievement, for which he will deserve the applause and thanks of the nation.

Letters to the Editor

Give the Weather Man His Due

CHICAGO, Ill.

TO THE EDITOR:

Under the heading "Annual Reports of the Regional Directors" there appears in the *Railway Age* of February 14, page 393, the annual report of the regional director of the Northwestern region for 1918 as made public by the Railroad Administration. In this report, under the subhead "Co-operative Action" is the following paragraph: "A manager was placed in charge of the Upper Lake Michigan and Lake Superior ports to supervise the handling of ore, grain and coal and to co-operate with a committee representing vessel and ore interests. Rerouting by this organization made a saving of 3,577,434 miles. The steaming of ore was almost entirely eliminated; saving, it is estimated \$197,000."

On what hypothesis this estimate of \$197,000 was based, or who did the hypothecating is unknown to the writer. It seems probable from the amount, \$197,000, that the estimator took the total amount expended in 1917 for steaming of ore at the head of the lakes as a basis of comparison.

The steaming of ore means the thawing of ice from ore frozen in cars, by means of steam, in order that the ore may be unloaded into the pockets of the ore docks. The steam used is obtained from locomotives held in ore yards for this purpose, the steam usually being piped into the loaded cars by means of lines of steam hose ending in perforated pipes, which pipes are thrust into the ore loads as steam is turned on. This process of steaming is expensive because it requires locomotives, fuel and crews, but special steaming plants for this purpose can only be erected and maintained at very considerable cost. Like snow handling equipment, the special steaming plant would be in use for only an uncertain few days per year, depending entirely on the weather.

It is obvious that if there is no frost during the season of navigation sufficiently severe to freeze ore in transit, there is no steaming of ore necessary. In case any ore freezes in pockets of the docks, hot water from locomotives is used to flush and clean the floors. Steaming is only needed for ore to be unloaded from cars.

Now it happens that the worst season in many years in this particular regard was experienced in 1917. Due to war needs, to the late date of beginning ore transportation and to strikes at the ore docks, a great traffic in ore was carried on at the head of the lakes in the late summer and autumn. This traffic was increased from week to week and kept going until the latest possible date in the autumn in order to fill war orders. In consequence a great deal of ore was frozen in cars toward the end of the season, and had to be steamed. In 1918, however, no iron ore in cars was frozen or steamed by either of the two principal ore carriers at the head of the lakes on account of the uniformly mild weather which continued long after the close of navigation. The same or nearly the same conditions apply to all railroads carrying ore at the head of the lakes in 1918.

The expense of steaming ore has been a matter of anxiety and investigation with a view to betterment by officers of individual railroads under corporate control for years. It seems that the federal management has at last solved the problem, by a method of co-operation with a committee of ore and vessel representatives, and by the mysterious and unacknowledged co-operation of Him who tempers the wind to the shorn lamb. Only Private Bill Brock, of "Dere Mabel" fame, so far as is known, has been able to so camouflage a horse as to really make him look just like a picket fence. All

abuse and no praise will in time discourage the most loyal co-operator. Would it not look better to give the weather man his due?
OBSERVER.

A Disclaimer

LONDON, Eng.

TO THE EDITOR:

In the *Railway Age* for January 31, I find Clifford Thorne reported as having stated before the Senate Committee on Interstate Commerce that "he had analyzed the rates on fifty commodities for representative hauls in Great Britain which had been selected by W. M. Acworth, and that on four-fifths of them the rates were lower than the rates in Official Classification Territory in this country."

I am at a loss to understand to what statement of mine Mr. Thorne can allude. I have never, so far as I know, except on one occasion nearly thirty years ago, selected rates for purposes of comparison between England and America. On the contrary, I have for years past publicly asserted again and again that representative hauls do not and cannot exist. Only last year in an official report to the government on the railways of Rhodesia I wrote, "Particular cases in my judgment prove little or nothing. * * * It can hardly be that among half a million rates there are not a dozen or twenty or a hundred that can be impeached. * * * It can hardly be but that a general manager can counter each case of alleged hardship with a dozen favorable rates."

It is true that in the year 1891 in my book *The Railways and The Traders*, which was, as I stated in the preface, a sketch of the railway rates question from the railway point of view, I inserted comparisons between certain English and American rates. I introduced them, however, by saying, "Let it be frankly confessed that in one sense the rates which follow cannot be asserted to be typical of American rates. * * * They are rates actually in force. If they prove nothing else they at least prove this, that it is as easy to produce figures to show the moderation of English charges as it is to find others to convict them of being excessive and extortionate."

Is it to this thirty years old statement of mine so qualified that Mr. Clifford Thorne alludes, or has he fathered on me a comparison made by somebody else?

W. M. ACWORTH.

Returning to à La Carte Service

CHICAGO, Ill.

TO THE EDITOR:

The resumption of à la carte dining car service recently ordered by the director general of railroads, as noted in the *Railway Age* of February 14, page 408, will be a matter for congratulation and relief on the part of the traveling public, who loyally "stood for anything" during the world war: who gave and saved and were inconvenienced in a thousand ways without any serious murmur. Beyond a shadow of doubt the traveler had, and still has, cause for complaint of the railroad administration's table d'hôte dining car service.

Traveling on heavy traffic trains west of Chicago the writer has found the table d'hôte dinner offered for one dollar to be equal to that obtainable in the better class cafés for two dollars. The service east of Chicago, though not quite so good, is still worth the money. In the sequel lies the cause of discontent.

On lighter traffic lines extending northward from Chicago, with the same general menu, there is worse than wartime service today. Is there any reason why a traveler should pay \$1 for a "compartment" plate of half portions of coarse

boiled beef, stringy, watery canned beans, and a thin dab of mashed potato, following as scant a fish course of creamed cod fish spread on a bit of cold toast, when traveling on a light traffic train; whereas, for the same price he can buy oysters on the half shell, turkey and cranberry sauce and all else that goes to make up a first-class \$2 dinner, served in first-class style and in generous portions on a heavy traffic train?

It would seem that either the individual railroads have been allowed to alter their dining car services for better or for worse at will, or that prices and profits and numbers of courses only have been standardized, while the standard of food provided in return for the dollar has not been taken into consideration. It is to be hoped that the light traffic lines which have undoubtedly made poor progress with the table d'hôte service and the financial returns therefrom, will at once reinstall their à la carte dining car service which before the war was in most cases admirable.

TRAVELER.

The Prevention of Collisions

NEW YORK.

TO THE EDITOR:

Readers who are interested in the problem of reducing the disgraceful collision record of the railroads of this country must have taken fresh heart from your issue of February 28. Mr. Vanneman, of the New York State Public Service Commission, sweeps away some of the deadwood which has clogged most of the discussions on this subject. That feature of the report which may be more important than all the rest is found only by turning to the obscure item on page 515, which tells us that a general inquiry is to be held. This inquiry ought to be of great value. Investigations of particular accidents always leave much to be desired, for railroad officers are on the defensive and remain as reticent as they know how to be. The investigators or any parties adverse to the railroad company often seem to fall far short of a judicial frame of mind, and anything like a broad treatment of the general question of safety is almost impossible. The New York commissioners have here a fine opportunity to do some constructive work.

On one point Mr. Vanneman adopts the excessively cautious attitude of the railroad signal engineers (which caution has greatly retarded true progress). He says that an automatic stop (or a cab signal), if used, must be installed on the whole road; otherwise locomotives from branch lines, not equipped, must be kept off from those divisions on which the device is installed. This objection is not so important as it seems. The frequent use of engines off their regular divisions is unnecessary—it *should be made unnecessary*, even at considerable expense; but when such use does become necessary the thing to do is to make use of the absolute manual block system; and temporarily to keep trains two blocks apart, if necessary to afford the needed confidence. Every railroad is liable to have to run trains against the current of traffic, and should be prepared for the suspension of automatic-block-signal protection at any time. A road which is not prepared to protect trains by the space interval at any time, on the shortest notice, without any apparatus except the telegraph or the telephone, is very far from being an ideally equipped road.

And it may not be unfair to urge Mr. Vanneman to greater courage in another direction. He says that to install locomotive apparatus it will be necessary to enter unexplored fields; though he refers briefly to English and French experience. But why not investigate thoroughly what Europe has done?

The Great Western Railway of England has used cab signals for a dozen years; and for five years these signals have

been in constant service on considerable numbers of locomotives. Why should not Mr. Vanneman go over and spend a few weeks in England and France?

An engineman can shut his eyes to the visual signals; he can even shut his mind to the signals when his physical eyes are wide open; but shutting his ears to an audible signal is far more difficult. Query: Do we fully appreciate the principle of the audible signal? We have been using torpedoes for half a century, but have we not neglected some of the lessons which they teach? Mr. Vanneman refers to the torpedo arrangements in Europe as "crude"; but some things that are crude still conduce powerfully to the safety of railroad operation—for example, broken stone ballast.

Your cold and condensed editorial on this report leaves out a lot of things which American railroad men ought to take to heart. You sympathize with the railroad president who has had difficulty in getting all the money needed to introduce necessary safeguards on his road. This sympathy is all right; everyone of us shares in it; but in the last analysis the railroad president *must take the risk*—as indeed he must with his whole financial problem. Is not this true? Congress does not intend to allow the railroads to increase their incomes until they actually starve. If this is mere pessimism and grumbling, you may make the most of it. Plain facts may as well be faced.

Mr. Vanneman, in his full report, printed since your paper came out, discusses the flagging rule, the practice of the New York Central in the management of tail lights, and other things. This is useful matter for railroad men who need it, but the dominant impression is, *Why* do railroad men need it? Why is this past history useful? Why are we still discussing ways of perfecting the flagging rule when many years of experience have demonstrated that the task is hopeless? The New York Central has changed its arrangement of tail lights, and the decision to do this was, no doubt, the result of much time spent in careful discussion; but we ought to be spending our time in discussing modern improvements, rather than ancient canal-boat methods. The real desideratum is to run trains (by means of the space interval) under such circumstances that they will be safe even though no tail light should be visible more than 500 feet away.

This proposed New York inquiry ought to be the starting point for a really progressive movement. Nearly or quite all of the informative discussion on the collision problem which has been promulgated so that the public could really get the benefit of it has been available only in fragments. We have various deliverances from the Interstate Commerce Commission, but none of them furnish an adequate view of the railroads' side of the question. If our railroad managements agree with the Interstate Commerce Commission no one knows it. If they disagree, there has been no clear setting forth of the facts. There ought to be a public debate, with strong men to present both sides. The signal manufacturers are supposed to be able to remedy all of our troubles, but they, as well as the Interstate Commerce Commission, seem satisfied to stand off and wait. Why do they not induce the railroads to make better progress? Or, if they have tried to do this and have failed, what is the reason for the failure? All public questions of real importance are made the subject of thoughtful public discussion in Congress, or in a legislature, or a court, or the pulpit, or some free forum. Is it or is it not correct to call this question of safeguarding passengers' lives an important public question?

V. P. O.

Five men arrested at Albany, N. Y., last week, by New York Central police are believed to have stolen mileage tickets from 75 small stations in New York state. More than 20 stations in the immediate vicinity of Albany have been broken into.

Heavy Standard Mallet Type Locomotive

The First of the Government Order for Over 100 of These Engines Delivered to the Norfolk & Western

THE FIRST ORDER of 1,025 locomotives placed by the United States Railroad Administration included an order of 20 heavy (2-8-8-2) standard Mallets. This was later increased to over 100, 65 to be built by the American Locomotive Company and 41 by the Baldwin Locomotive Works. The American Locomotive Company has within the past month made the first delivery of these locomotives. While they were scheduled and lettered for the Virginian Railway they have been assigned for duty on the Norfolk & Western. These engines are the largest of the standard locomotives built for the Railroad Administration and represent the limit to which a locomotive can be built to come within the maximum clearance limitations set by the Railroad Administration (15 ft. 9 in. high and 10 ft. 9 in. over cylinders). These locomotives are smaller than those which can be used on the Virginian Railway, as evidenced by the 2-10-10-2 type Mallet locomotives which were recently built for that road by the American Locomotive Company. These latter engines have a width clearance of 12 ft. and a height clearance of 16 ft. 7½ in. On the other hand, the clearance limitations of these standard engines compare very favorably with the 2-8-8-2 Mallets recently built by the Norfolk & Western to that company's own design. Being limited by these clearance restrictions a very careful design had to be made to provide a locomotive of the power required.

In the matter of power these standard engines may be compared with locomotives of similar wheel arrangement built by the Norfolk & Western in its own shops, and for the Western Maryland by the Lima Locomotive Company. A table comparing the principal dimensions of these two

trates plainly one of the chief objections to standardization.

The standard 2-8-8-2 Mallet locomotive has a total engine weight of 531,000 lb., of which 28,000 lb. is on the leading truck, 237,000 lb. on the front or low pressure unit, 241,000 lb. on the high pressure unit and 25,000 lb. on the trailing truck. It is built for a permissible axle load of 60,000 lb.,

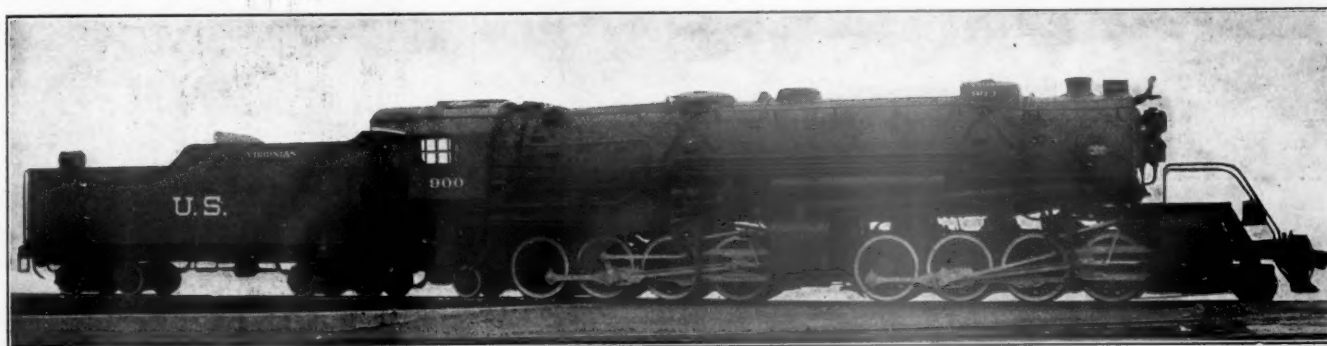
TABLE OF COMPARISON OF 2-8-8-2 TYPE LOCOMOTIVES

Name of road	U. S. Std.	Norfolk & Western 1918	Western Maryland 1915
When built	1919	1918	1915
Tractive effort, compound, lb.	106,000	104,300	106,000
Weight, total, lb.	531,000	535,000	495,000
Weight on drivers, lb.	478,000	472,000	445,000
Diameter of drivers, in.	57	56	52
Cylinders, diameter and stroke, in.	25 and 39 by 32	24½ and 38 by 32	26 and 40 by 30
Steam pressure, lb., per sq. in.	240	230	210
Total heating surface, sq. ft.	6,120	6,316	5,669
Superheater heating surface, sq. ft.	1,475	1,510	1,264
Grate area, sq. ft.	196	96	80
Weight on drivers ÷ tractive effort, (compound)	4.7	4.5	4.2
Tractive effort × diameter drivers ÷ equivalent heating surface*	695.	680.6	726.3
Equivalent heating surface* ÷ grate area	86.6	89.4	94.9

* Equivalent heating surface = total evaporative heating surface + 1.5 times the superheating surface.

†, Gaines combustion chamber is used on this locomotive.

which is the same limit prescribed for the standard 2-6-6-2 locomotive. The cylinders are 25 in. and 39 in. by 32 in., and a working pressure of 240 lb. is carried on the boiler. The distribution of the weights amongst the various drivers is shown in the weight diagram, which was prepared by F. P.



Standard 2-8-8-2 Type Locomotive for the U. S. Railroad Administration

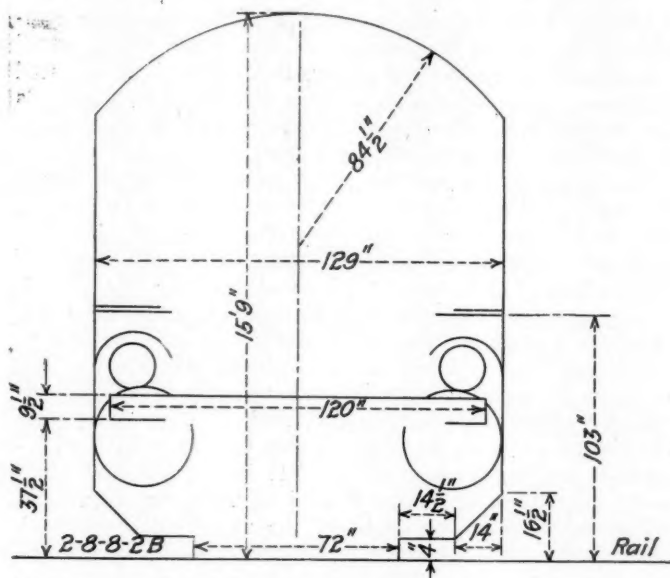
locomotives is included. A description of the Norfolk & Western locomotive was published in the *Railway Age* of July 12, 1918, page 59. From this table of comparison it will be seen that the standard locomotive is 6,000 lb. heavier than that built by the Norfolk & Western, and 3,300 lb. heavier than that built for the Western Maryland. The working pressure on the standard locomotive is also 10 lb. greater than that of the Norfolk & Western locomotive and 30 lb. higher than that used on the Western Maryland locomotive. The boiler proportions of the standard locomotive and those of the Norfolk & Western compare very favorably. However, the Norfolk & Western design provides about 200 sq. ft. more heating surface and about 35 sq. ft. greater superheating surface. While these two engines are very nearly alike in proportions, they are of an entirely different class as far as the construction details are concerned, which will necessitate a different line of repair parts and illus-

Pfahler, chief mechanical engineer of the Mechanical Department, United States Railroad Administration. The clearance diagram, also prepared by Mr. Pfahler, is included in the illustrations.

The boiler of these locomotives has an outside diameter at the first ring of 98 in. It is of the straight barrel type and has shell plates 1 1/16 in. thick. The dome is located on the third course and on account of the clearance limitation is only nine inches high. The boiler is equipped with a Gaines combustion chamber. The length of tubes is 24 ft. There are 274 2¼-in. tubes and 53 5½-in. flues, which are of No. 8 gage, being one gage heavier than the general standard practice in the construction of Mallet locomotives, due to the fact that a working pressure of 240 lb. is carried on the boiler. The firebox is 170⅞ in. by 96¾ in., having an effective area of 96.2 sq. ft. The firebox sheets are ⅜ in. thick and the back tube sheet is ½ in. thick.

The tube spacing is similar to that used on the standard 2-6-6-2 type Mallets.

The frames for these locomotives are 6 in. in width, the same as for the 2-6-6-2 locomotives and are $6\frac{3}{4}$ in. deep over the pedestals, having a minimum thickness of $5\frac{1}{2}$ in. The lower rails are $4\frac{1}{2}$ in. deep, with a minimum thickness of 4 in. The frames for the high and low pressure engines are connected with the Baldwin type of frame hinged casting. From the standpoint of design they are, with the



Clearance Diagram

exception of differences in dimensions, practically exact duplicates of the frames built for the standard 2-6-6-2 locomotive.

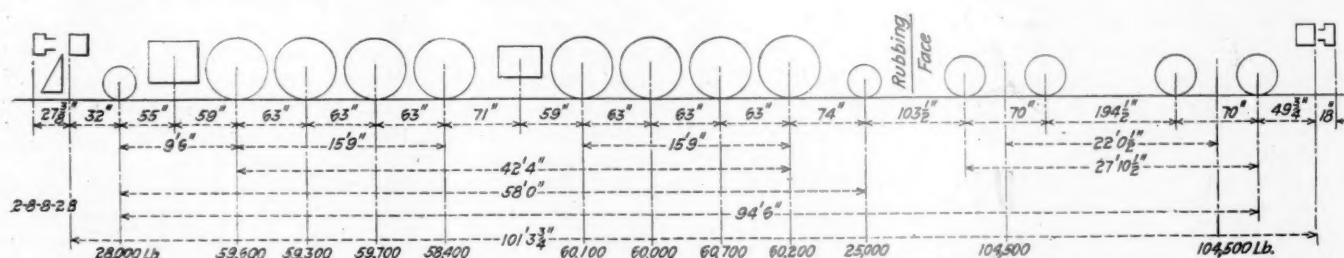
As in the case of the 2-6-6-2 standard locomotive, both the high and low pressure cylinders are provided with piston valves. A larger diameter of valve is used, however, it being 14 in. The travel of the valve for the high pressure cylinders is $6\frac{1}{2}$ in. and it is given a lap of 1 in., a lead of $\frac{1}{8}$ in. and an exhaust clearance of $\frac{1}{4}$ in. In the low pressure

is $4\frac{1}{2}$ in. in diameter for the 2-8-8-2 locomotive and $3\frac{3}{4}$ in. in diameter for the 2-6-6-2 locomotive. The pistons have a dished section and those for the high pressure cylinders are interchangeable with those used on the light standard Pacific and the Eight-wheel switchers. The specifications require that they be made of rolled steel or cast steel. They are provided with packing rings of Hunt-Spiller gun iron. The pistons for the low pressure cylinders are, of course, not interchangeable with any others used on the standard locomotives, although they are of the same general standard design. They are made of cast steel and are of dished section, having, as in the case of the high pressure cylinders, two packing rings of Hunt-Spiller gun iron. The piston rods for both the high and low pressure units are $4\frac{1}{2}$ in. in diameter. Paxton-Mitchell piston and valve rod packing is used on these locomotives.

The main rods of both the high and low pressure cylinders are precisely the same. They are 118 in. long from center to center and are of I-section, being 3 in. wide and 6 in. deep, with $1\frac{1}{2}$ -in. flanges and a $\frac{1}{2}$ -in. web. They are of the same design as the main rods used on the 2-6-6-2 standard locomotive, the only difference being that they are one inch longer between centers and the flange is $\frac{1}{2}$ in. deeper. Thus it will be seen that rods for both these locomotives can be manufactured from exactly the same size of stock material. The design of the strap end is exactly the same, the only difference being that the rods for the 2-8-8-2 type are a little heavier than for the 2-6-6-2 type locomotive.

Among the interchangeable details of these locomotives may be mentioned the dump grate rigging, which is the same as that used on the light and heavy Santa Fe locomotives; the pilot, which is standard for all except the switchers; tires, which are common to the 2-6-6-2 and the light Santa Fe; and engine truck and trailer axles, which are common to all of the standard locomotives. The engine truck box is the same as that used on both designs of Mikado and Santa Fe and the 2-6-6-2. The front bumper is the same as that used on all except the switchers and the frame pedestal shoe, wedge, and wedge bolt are the same on all locomotives except the switchers. In addition to this there are many other details which are common to the 2-6-6-2.

The specialties used on these locomotives as well as on



Wheel Spacing and Loading for the Heavy Standard Mallet

cylinders the valve is double ported and has a travel of 6 in. with a lap of $1\frac{1}{8}$ in., a lead of $\frac{3}{16}$ in. and an exhaust clearance of $\frac{7}{16}$ in. As in the case of all the standard locomotives the valves and cylinders are bushed with Hunt-Spiller gun iron. Both cylinders are spaced 84 in. between centers, whereas in the lighter Mallets the spacing is 85 in. As in the case of the 2-6-6-2 Mallet the Mellin type of by-pass and intercepting valve is used.

In the matter of general design the crosshead for the 2-8-8-2 locomotive is the same as that of all standard locomotives. The dimensions are also practically the same, with the exception of the piston fit, the diameter of the boss in the body of the crosshead being made eight inches instead of seven, on account of the heavier piston rod, which

the other standard engines were enumerated on page 91 of the January 3 issue of the *Railway Age*.

The following is a list of the general dimensions of these locomotives with the principal data:

General Data

Gage	4 ft. 8 1/2 in.
Service	Freight
Fuel	Bit. coal
Tractive effort (compound)	101,300 lb.
Tractive effort (simple)	121,600 lb.
Weight in working order	531,000 lb.
Weight on drivers	478,000 lb.
Weight on leading truck	28,000 lb.
Weight on trailing truck	25,000 lb.
Weight of engine and tender in working order	746,100 lb.
Wheel base, driving	42 ft. 1 in.
Wheel base, rigid	15 ft. 6 in.
Wheel base, total	57 ft. 4 in.
Wheel base, engine and tender	93 ft. 3 in.

Ratios	
Weight on drivers + tractive effort (simple).....	3.93
Total weight + tractive effort (simple).....	4.37
Tractive effort (compound) X diam. drivers + equivalent heating surface*.....	695.
Equivalent heating surface + grate area.....	86.6
Firebox heating surface + equivalent heating surface* per cent..	5.2
Weight on drivers + equivalent heating surface*.....	57.5
Total weight + equivalent heating surface*.....	63.8
Volume equivalent, simple cylinders, cu. ft.....	22.2
Equivalent heating surface* + vol. cylinders.....	375.
Grate area + vol. cylinders.....	4.33
Cylinders	
Kind.....	Compound
Diameter and stroke.....	25 in. and 39 in. by 32 in.
Valves	
Kind.....	Piston
Diameter.....	14 in.
Wheels	
Driving, diameter over tires.....	57 in.
Driving journals, diameter and length.....	11 in. by 13 in.
Engine truck wheels, diameter.....	30 in.
Engine truck, journals.....	6½ in. by 12 in.
Trailing truck wheels, diameter.....	30 in.
Trailing truck, journals.....	6½ in. by 12 in.
Boiler	
Style.....	Straight top
Working pressure.....	240 lb. per sq. in.
Outside diameter of first ring.....	98 in.
Firebox, length and width.....	170½ in. by 96¼ in.
Firebox plates, thickness.....	¾ in.
Firebox, water space.....	5 in.
Tubes, number and outside diameter.....	274—2¼ in.
Flues, number and outside diameter.....	53—5½ in.
Tubes and flues, length.....	24 ft.
Heating surface, tubes.....	3,860 sq. ft.
Heating surface, flues.....	1,825 sq. ft.
Heating surface, firebox.....	435 sq. ft.
Heating surface, total.....	6,120 sq. ft.
Superheater heating surface.....	1,475 sq. ft.
Equivalent heating surface*.....	8,333 sq. ft.
Grate area (with Gaines wall).....	96 sq. ft.
Smokestack, height above rail.....	15 ft. 8½ in.
Center of boiler above rail.....	10 ft. 4 in.
Tender	
Tank.....	Water bottom
Frame.....	Cast steel
Weight.....	209,100 lb.
Wheels, diameter.....	33 in.
Water capacity.....	12,000 gal.
Coal capacity.....	16 tons

* Equivalent heating surface = total evaporative heating surface + 1.5 times the superheating surface.

Howard Elliott on Needed Regulation

IN AN ADDRESS before the Commercial Club of Chicago on March 8, Howard Elliott, chairman and president of the Northern Pacific Railway Company, said in part:

"It has been urged that government control and operation should be continued until January 1, 1924, instead of being limited to 21 months after the ratification of the treaty of peace, as fixed in the present law. This is on the theory that better results can be obtained for the nation and the railroads under such long time plan than to return the roads to the owners for operation. But does the record of government operation give any great promise of such better results?"

"Certainly private ownership and operation, while not perfect, have produced unusual results. Private owners created a system of railroads with less investment of capital for the service rendered, and had up to December 28, 1917, furnished better service to the public and at lower rates and has paid higher wages to employees, than in any civilized country. This was done when the citizen had for a considerable period 'liberty' to exercise his 'tireless energy' and his 'individual responsibility and initiative.'"

"What is called the labor question is, of course, one of the most serious and difficult confronting the whole world, the railroads in particular, and there must be a broad view of it and a spirit of give and take by all classes of people. All good citizens desire to see the wages and living conditions improve, but there is a limit to what commerce and industry can pay, and survive. It is surely better to have reasonable wages and continuous employment rather than to force wages so high that industry languishes, for then the wage earners themselves will suffer most of all.

"The man who puts a dollar of his savings into the trans-

portation business does so knowing that his dollar is subject to the power of the government to make the rules and regulations governing the business. The man who decides to earn his dollar by working for the railroad should be willing to submit to reasonable wages, rules and regulations, just as much as does the man who puts in his dollar already earned. It is in the public interest to have the invested dollar regulated reasonably, and it is equally in the public interest that the dollar paid for service and the conditions of service should be regulated reasonably.

"And if employees can once be satisfied that a fair and impartial tribunal is in existence to hear important complaints that cannot be settled promptly on the 'home road' between employees and employer, there should be no need of strikes, which are simply a form of war. The world has just lost millions of men and billions of treasure in a struggle whether force rather than justice and reason were to settle the affairs of the world. Surely the United States, the most enlightened and progressive nation in the world, can, if it takes up the question seriously, work out some plan for adjusting industrial disputes that will carry out the doctrine of 'live and let live' and save the loss, sorrow and anguish that comes to thousands of innocent people who have no part or voice in the controversy or its settlement.

"Capital may be timid but it was bold enough in the last 50 years to create our great American railway system. It will be willing to go on with that work if it can be assured that the policy of the government will be to sustain the railroads in the legitimate conduct of their business and allow reasonable liberty of action instead of repressing and hampering the work. The credit of the roads will come back when people understand that Congress has laid down the rule that a reasonable rate is also an adequate rate, sufficient to reflect changed costs, increased wages and rates for the use of money; when Congress insists that some reasonable method of adjudicating controversies about wages and working conditions shall be written into the law of the land; and when the nation insists that it is the duty of a President to preserve, protect and expand the transportation facilities of the country, just as much as agriculture, banks, manufacturers, commerce, or other forms of individual activity.

"Whether to put all the regulatory power in the hands of the Interstate Commerce Commission, or to relieve the pressure on that overburdened body by giving it help in the form of Regional Interstate Commerce Commissions which will be nearer the people and to the state commissions, and whether to recognize the great importance of the transportation business by having a cabinet officer to take charge of some of the executive work connected with regulation and to watch and protect the transportation agencies, are, of course, questions of individual judgment.

"An effective transportation machine is vital to the interests of the Nation in war and peace. Its importance justifies having a man in the cabinet to confer on an equality with other cabinet officers dealing with great national questions and resources, and to present the transportation needs of the nation directly to the President and his advisors.

"The charge is made that this plan injects the management of the railroads into politics—unfortunately you cannot divorce politics entirely from the situation if you admit the principle of regulation by the government, but in the long run with the President and the Secretary of Transportation directly interested in giving the country good service it has seemed to us that the highest standard of political action would be obtained."

The movement of freight last Sunday over the Pennsylvania Railroad was continued at full pressure. The expected order to send out no trains on Sunday except for live stock and perishable shipments was not issued, a number of derailments last week having caused serious congestion at several points.

Will the Mexican Railway System "Come Back"?

The Carranza Government Has Established Railway Purchasing Agents at New York and Houston

By P. Harvey Middleton

Executive Assistant, Railway Business Association

UP ON THE THIRTY-FIFTH FLOOR of the Woolworth building, in New York, you will find Senor F. P. de Hoyos, general purchasing agent of the Mexican government railway administration, who has recently resumed the buying of equipment for the bandit-wrecked railroads of Mexico. Carranza's New York office has already spent \$764,581 for railway supplies, paid for with bank credits established in New York, all purchases being made f. o. b. There is constantly on hand in New York a bank credit of \$150,000, which is renewed as funds are used up. On the second floor of the Gulf building, in Houston, Texas, G. B. Aleman is also acting as purchasing agent for the Mexican government railways, but I am unable to learn the extent of his purchases to date.

Of course, three quarters of a million dollars or so in railway supplies spreads out pretty thin over 9000 miles of railways which have been systematically shot full of holes in revolutions, counter-revolutions and bandit raids for over five years, but the important thing is that Mexico has started to rehabilitate her railways, and that she is able to finance purchases of railway supplies through New York banks.

Senor Rafael Nieto, acting Minister of Finance for Mexico, visited New York the second week in February to arrange for the extension of a bank credit to Mexico, secured by customs revenues, to cover orders for railway supplies. It is understood that these orders will include 25 locomotives, 500 freight cars and a large tonnage of steel rails. Senor Nieto has engaged Lindley M. Garrison, former Secretary of War, and receiver of the Brooklyn Rapid Transit Company as counsel.

At 25 Broad street, New York, the dispossessed officials of the National Railways of Mexico Company, ejected by the Carranza decree of December 4, 1914, and denied access to their offices and archives in Mexico, sit around in the same uncomfortable ease that for a time afflicted some of our best-known American railroad corporation officers—with the rather important difference, however, that the National Railways of Mexico Company have not received any financial return from the Carranza government on its seized properties, a system comprising the National Railroad of Mexico, the Mexican Central, the Mexican International, the Hidalgo & Northeastern, the Vera Cruz & Isthmus, the Pan American, the Mexican Southern, and, under lease, the Inter-oceanic—in all, 8,038 miles of line, 51 per cent of the stock being controlled by the Mexican government, and the balance owned by Americans. The investment in road and equipment of the National Railways of Mexico at the time of their seizure was \$853,073,281.

Damage to Railroads

Some idea of the field for railway supplies in Mexico may be gathered from the fact that during the revolution the tracks and roadbeds in almost every part of the republic were damaged or destroyed. The line of the Mexican Northwestern is almost a wreck from end to end. In some places on the Mexican Central the rebels used scrapers to obliterate the roadbed. From 35 to 40 per cent of the railroad bridges throughout the country were destroyed, and numerous stations between Monterey and Mexico City were burned. Fifteen

stations were damaged or utterly destroyed on the Inter-oceanic alone. During 1911-1917, 9,250 cars were lost on the National Railways, which would represent about 40 per cent of the rolling stock.

It was reported from Tampico in September last that the railroad equipment was so short in that region that when the single daily passenger train from Monterey was delayed there was no outgoing train the following morning. The line from San Luis to Potosi at that time was unsafe on account of roving bandits, who had frequently blown up sections of the track and dynamited trains. All cross-ties and much of the steel will have to be renewed before safe, fast and regular service can be relied upon. Practically none of the rolling stock is suitable for first-class traffic.

Attention should also be drawn to the statement of Felipe Pescador, general manager of the National Railways which appeared in the *Railway Age* of February 21, page 470 and to that of Manuel Aguirre Berlanza Secretario de Gobernación which appeared in the *Railway Age* of February 28, page 518.

Repairs Temporary

Recent reports indicate that the Mexican National is at present in a reasonably good condition, so, too, the lines from Matamoras to Monterey, Paredon to Saltillo, Tampico to San Luis Potosi, and Mexico to Toluca, Irapuato, Guadalajara and Aguascalientes. The Railways of Yucatan, the Southern Pacific of Mexico, the Vera Cruz, and the Mexican Railway are likewise reported as having been brought into fair condition. It is important to note, however, that so far much of the repairing that has been done is necessarily of a temporary nature, wooden bridges being substituted for steel structures.

Accidents provoked by rebels have diminished in number on the Tehuantepec, Pan American, and Alvarado lines. How much capital the Mexican government will actually devote to the rehabilitation of the railways is still undetermined. The Mexican Congress has, however, authorized the placing of three loans amounting to 300,000,000 gold pesos (about \$150,000,000), for the purpose of reorganizing the finances of the railroads and establishing a new bank of issue.

It is estimated that it will be necessary to spend at least \$50,000,000 to rehabilitate the railways of Mexico, if they are to be brought back to the state of efficiency existing under the American operating officers prior to the revolution. Under the Diaz government concessions granted to private companies for railway construction provided for the automatic return of the railways to the government after a stated period, usually 90 years, upon the payment by the government of compensation for rolling stock, buildings and material on hand at the date of the transfer.

When Carranza took over the National Railways of Mexico in 1914 the decree provided that an indemnity should be paid based on the average earnings for five years, plus 10 per cent, but up to the present time the Mexican government has been unable to meet the interest on its state bonded debt, interest in default on January 1, 1918, being \$12,047,807. In addition to this, interest is in default on \$50,747,925 general mortgage 4 per cent gold bonds of the National Railways

of Mexico, and on \$7,000,000 Vera Cruz & Pacific first 4½ per cents.

The mileage of the lines of the National Railways of Mexico consists of 6,410 standard gage and 388 narrow gage. Sidings and yards, 896 miles standard gage and 45 narrow gage. In addition, the National Railways system owned or controlled, prior to the Carranza edict, 162 miles of the Texas-Mexican line and 12 miles of Decauville construction. It had in 1914 15,700 standard gage freight cars of a total capacity of 521,957 metric tons; 1,779 narrow gage freight cars of a total capacity of 38,244 metric tons; 454 standard gage passenger cars, and 113 narrow gage passenger cars; 670 standard gage locomotives, and 92 narrow gage locomotives.

New Lines Built or Under Way

New lines projected by the Mexican National Railway administration include a line along the Gulf of Mexico from Matamoras on the border to Vera Cruz via Tampico and Tuxpam, with a branch to Honey which will afford connections to Mexico City, and an extension of the line on the Pacific side from Llano Grande to Mazatlan. A line is now under construction from Canitas to Durango, of which 250 miles have been completed. Another line is being built east of Saltillo. A line is also being built from Cuatro Ciénegas, State of Coahuila, to Chihuahua, via Sierra Mojada, approximately 450 miles. Another line is under construction from Durango to Mazatlan, about 135 miles, making a new transcontinental line across Mexico. The Cuatro-Ciénegas-Chihuahua route will tap large coal fields in Northern Mexico. The Durango-Ciénegas road will shorten the distance to the Mexican capital by some 200 miles and will open up rich mining areas.

Announcement was made in Mexico City on December 19, 1918, that construction work will shortly be commenced on a railway connecting the city of Merida, capital of the State of Yucatan, with Mexico City. A contract has been prepared with the Development Company of the Southeast for carrying out the work. The road will run from Merida through the southern portion of Yucatan, passing through the State of Campeche and Tabasco, and effecting a junction with the Pan American Railway at the station of Santa Lucrecia, State of Vera Cruz. This route will traverse a very rich agricultural region which is at present without rail communication. A large amount of rolling stock and other material for this line has already been landed at Progreso by steamer.

Newspapers in Mexico City have during the past month announced a great revival of interest in railway development. The steel works at Monterey have already made one delivery of 5,000 tons of steel rails for the line between Monterey and Tampico. Orders are in hand at the same plant for all lines under government control. Preparations are under way for the completion of the line of the Southern Pacific Railway of Mexico from its present terminus south of the city of Tepic with the existing lines from Guadalajara west, and thence to Mexico City, thus giving direct rail communication with all the cities of the states of Sinaloa and Sonora, as well as with the Pacific coast of the United States.

Application has been made to the Mexican Government by a British syndicate for a concession to construct a railroad from San Geronimo on the Isthmus of Tehuantepec, to Campeche, a distance of about 450 miles. At San Geronimo the proposed road will connect with the National Tehuantepec Railroad, and at Campeche with the United Railways of Yucatan. The application really seeks to revive a concession that was granted by the Government several years ago for a railroad that was to be built along the same route as is now in view. Under the original concession the route for the proposed railroad was surveyed and was found to

be feasible from an engineering and construction standpoint.

America's Stake

Over one billion dollars of American capital is invested in Mexico, of which \$235,464,000 is in railway stocks and \$408,926,000 is in railway bonds. For this reason the ability of Mexico to "come back" is of vital interest to Americans, and especially to the American railway supply interests, for it is one of the few countries in the world where American railway investments far exceed those of Great Britain—a potent factor in securing orders for supplies. In the past Mexico has shown surprising ability to recuperate quickly from internal troubles. Since the beginning of 1918 real progress has been noted. The mines and smelters with a few important exceptions are running to capacity, the oil wells are producing freely, farms are being worked extensively, the government is distributing agricultural implements at cost, and the condition of the railroads is receiving serious study, although in certain sections bandit raids are still of frequent occurrence.

Existing Railways Inadequate

With a population of 15,000,000, spread over 1,000,000 square miles, the existing railway development of Mexico is entirely inadequate, and there are immense areas, rich in minerals or with very productive soil, practically isolated from the rest of the country. The present railways have come into existence to meet the needs of special interests. Mineral railways for the conveyance of ore from mines to convenient shipping points, for instance, have developed into important lines.

Of all the railways in Mexico those making up the National Railways group are by far the most important, for they have four points of entry on the United States border, their lines running south from Matamoras, Laredo, Eagle Pass and El Paso, and connecting with the important harbors of Tampico and Vera Cruz on the east coast and with Manzanillo on the Pacific.

At San Geronimo, on the Tehuantepec Railway, there is a branch line called the Pan American Railroad, which is a part of the National system. It runs along the Pacific coast to Tapachula on the borders of Guatemala, and is part of that great dream of American statesmen—a direct railway route from the United States to the southernmost republics of South America. It is hoped that when the world settles down to business again this project will be carried out, and then we shall be able to take a train from New York for Chile and Peru via Mexico, Guatemala, Salvador, Nicaragua, Costa Rica and Panama.

Other important lines include the British owned Mexican Railway, operating 402 miles of line between Mexico City and Vera Cruz, which has been twice confiscated, and is now operated by the Mexican government. It runs from the lowlands of Vera Cruz up through the mountains, and is a marvel of engineering, at one point reaching an altitude of 10,000 feet. In some places it runs along the mountain side on terraces hewn out of the solid rock. The cost of construction was \$125,000 per mile.

Then there is the Mexican Central, which has suffered so severely from the rebels, and which follows part of the ancient mountain trail used by the looting Spanish conquerors in passing to and fro between the oceans, from the Gulf of Mexico to the Pacific. The Tehuantepec Railway, with 305 miles of line, running across the isthmus from the Atlantic to the Pacific, spans the narrowest neck of land on the American continent with the exception of Panama, and has recently been brought completely under the control of the Mexican government.

In northern Mexico is the American owned Kansas City, Mexico & Orient, with 349 miles of line in Mexico, which

has so far not been disturbed by the Mexican government. This was the first direct line to cross the frontier between the United States and Mexico, extending from Kansas City to the Bay of Topolobampo, on the Mexican Pacific coast, opening up a magnificent country of immense area, rich in mineral and agricultural resources. The Mexican Northwestern Railway, a British enterprise, controls 496 miles of line between El Paso and Chihuahua and the Southern Pacific of Mexico, still in the hands of its American owners, with 1,246 miles of line, runs from Nogales on the border to Culiacan and Orendain. Part of the main line and several of the branches are out of business temporarily.

The urgency of the need for American railway supplies in Mexico is emphasized by a cablegram sent by the American Consul General in Mexico on February 21 announcing that a presidential decree in effect from February 20, 1919, permits the importation of the following railway supplies into Mexico free of duty for a period of six months: Switch points, iron and steel ties, turntables, iron and steel rails, frogs, and tie plates. The duties thereby remitted amount to 0.03 peso per kilo gross weight, or \$0.68 per 100 lb. According to the report submitted by the assistant director general of the Mexican Government Railways, total receipts for the last week in December, 1918, amounted to 1,607,680 pesos. This is a marked increase over the weekly receipts for the first six months of 1918, when the average was only 1,217,027 pesos. This refers only to the lines under government control.

Mexico to Report Progress

At a meeting arranged by the Council on Foreign Relations in the Hotel Astor, New York, on March 11, prominent Mexican business men gave accounts of the progress of Mexico in the last three years since the overthrow of the Diaz regime. The speakers included Ramon Prida, former President of the Chamber of Deputies of Mexico; Oscar Braniff, landowner; Garza Aldape, former Secretary of the Interior of Mexico, and Jose Castellot, Jr., son of a former Mexican senator. Meanwhile Rafael Nieto, acting Secretary of Finance of the Mexican government, and Dr. Alfredo Caturagli, fiscal agent of the Mexican republic in this country, are conferring with American bankers regarding the retiring of the Mexican national debt. According to the official statement of President Carranza, the amount of this debt in 1910 was about 450,000,000 pesos, Mexican currency, to which should be added the loan contracted by the Madero government in New York amounting to 100,000,000 pesos. No payments of interest have been made since May, 1914, when they were suspended by order of President Huerta. It is significant that National Railways of Mexico 4½ per cent bonds due 1957 sold on the New York Exchange on March 11 at an advance of 15 points over the last sale in December, 1918.

Bankers' Committee to Study Mexico

J. P. Morgan & Co. announced on February 24, that an international committee had been appointed for the purpose of protecting holders of securities of the Mexican Republic and of the various railway systems of Mexico, and to study conditions in Mexico with a view to evolving a plan to rehabilitate that country. The committee will number 20, 10 representing the United States, five Great Britain and five from France. The members of the committee are as follows:

J. P. Morgan, chairman; John J. Mitchell, president Illinois Trust & Savings Bank, Chicago; Walter T. Rosen, of Ladenburg, Thalmann & Co.; Charles H. Sabin, president Guaranty Trust Co., New York; Mortimer L. Schiff, of Kuhn, Loeb & Co.; James A. Stillman, chairman of the board, National City Bank, New York; James N. Wallace, president Central-Union Trust Co., New York; Albert H. Wiggin, chairman of the board, Chase National Bank, New

York; Robert Winsor, of Kidder, Peabody & Co., Boston; Laurence Currie, of Messrs. Glyn, Mills, Currie & Co., London; Sir Clarendon Hyde, of Messrs. S. Pearson & Son, Ltd., London; E. R. Peacock, chairman of the Bondholders' Committee of the Mexico Tramways and the Mexican Light & Power Group of Companies, London; Vivian H. Smith, of Morgan, Grenfel & Co., London; Vincent W. Yorke, chairman of the Mexican Railway Co., Ltd., London; William d'Eichthal, of Mirabaud & Co., Paris; Georges Heine, director of the Banque de l'Union Parisienne; Andre Honnorat, member of the Commission for the Protection of French Holders of Mexican Securities; Jaques Kulp, auditor of the Banque de Paris et des Pays-Bas, Paris; Joseph Simon, inspector of finance, general delegate of the Commission for the Protection of French Holders of Mexican Securities.

The Mexican government will appoint a committee to treat with this international bankers committee and it is believed that Robert Pesqueria, financial agent at El Paso will head the group.

Senor Nieto after several conferences with J. P. Morgan is said to feel very optimistic as to the outcome of the negotiations. Although final power rests with President Carranza, Senor Nieto may tentatively reach an agreement with the financiers. A well known banker whose name cannot be mentioned in discussing the situation is quoted as follows:

"I believe Carranza is in the same position as a man who has backed the wrong horse and is trying to recuperate his losses by playing the favorite. From all advices, he undoubtedly was playing with Germany, who is now put out of the running, and he plainly sees that the United States is now the only nation in the world that can finance him through his present difficulties.

"What Mexico needs is some definite financial plan. What she needs most is some Alexander Hamilton to lead her out of the financial wilderness into which she has wandered. I believe the Carranza officials are at last looking into the future and are beginning to realize that without the co-operation of foreign capital the country can never prosper, even with all her potential wealth.

"At present she is almost the pariah among nations. No other country in the world has enacted such atrocious legislation nor any other ruler dared to issue the confiscatory manifestoes and decrees that Carranza has put forth. However, this will all be in the past if the present government can give some form of guarantee that vested rights will be recognized and the interests of citizens of the United States given adequate protection. It is a consummation devoutly to be wished, not only for the benefit of the proletariat of Mexico, but for the enrichment of the world in general."

The new developments on the part of the present Mexican government has ordered the establishment of 23 commercial exhibits in North, South and Central America and Europe, and has appointed four commercial agents, who will be stationed in St. Louis, New Orleans and San Francisco and Barcelona, Spain. The exhibits will be housed as adjuncts of the Mexican Consulates in San Francisco, New Orleans, Tampa, New York, Los Angeles, Philadelphia, the West Indies, Central and South America and European cities.

The Bangor (Me.) Chamber of Commerce has adopted resolutions calling on public service commissioners to see that all public utilities are properly and efficiently run and declaring that every community should support commissions in seeing that public utilities have sufficient revenue to give good and safe service, and to make all needed further developments. All Boards of Trade are urged to agitate this question of the relations of the public to the welfare of essential utilities.

Railway Freight Transference and Handling

By H. McL. Harding*

NO ONE HAS DOUBTED but that the movements of package freight at railway terminals will be performed mechanically, as soon as the psychological time should arrive; that is, as soon as there is a sufficiently insistent demand, with conditions favorable in respect to education and finance. From an analysis of these movements based upon engineering experience they can be divided into inbound freight movements, outbound freight movements, a combination of these two, and the movements at transfer stations. In addition, there are the transfer movements at the combined marine and railway terminals. All of the above stations can be combined, but it is preferable to have the transfer stations separate.

The following movements refer to the outbound and inbound station movements, chiefly for l.c.l. freight. To the present time, improvements in these freight movements have consisted in refining existing methods of hand or motor truck conveying. To accomplish this, cars have been placed so as to reduce the length of the freight transference and the design of the freight station has been modified so as to make the travel shorter and the handling easier. These are all most praiseworthy, but it may be said that now there is little opportunity for further improvement in the design or in the operation by making further similar changes or a more intensive use of the congested floor areas.

It seems as though the usual operating facilities have been perfected as far as possible, and it is now necessary to look to other mechanical appliances or to other combinations of standard appliances to make any great and marked advances in this branch of railway terminal engineering. From many sources there come inquiries as to whether it is not possible to increase the freight transferring capacity of existing freight stations; that is, an increased tonnage moved per hour so as to obviate the necessity of purchasing additional land, and to reduce the time of car detention at the terminals and to save manual labor for a higher class of railway service. The stations, platforms and trackage spaces at the loading and unloading terminals have been worked to their limit and passageways on the surface are filled by an almost continuous line of trucks of various descriptions.

It will be advantageous first to enumerate the freight movements at the various simple and complex railway freight stations, and then to see what proven types of machinery manufactured by large companies in the United States can be readily and easily adapted to the various movements. By utilizing standard types of machinery, there is avoided any experimenting, and by installing the machinery of the largest manufacturers, adapted under the advice and the direction of experienced consulting engineers, there is a certainty of contract fulfilment and of commercially successful operation. Too often this latter has been neglected.

The movements at inbound freight stations consist (in general) in lifting the freight mechanically from within the sides of open cars or from the doors of closed cars and transferring the freight to within the inbound shed, and there assorting, distributing and tiering. By mechanical tiering a greatly increased temporary holding capacity is attained. The transference should be in the most direct line possible and then a longitudinal movement for the distributing and tiering according to the names or marks of the consignees.

These mechanical movements should be applicable to various designs of stations whether for through track or stub track stations. It should not be necessary to change the

ground plan of the station or of the platforms or the layout of the tracks or the general methods of operation.

Inbound Freight Station

The movements should be in loops so that many loads can follow one another continually without congestion, with rapidity and without rehandling by manual labor. There should also be parallel movements of different freight loads. The machinery should be of such type that there can be an excess of transferring capacity; that is, that the freight can be moved from the cars as fast as it can be ready for the machinery and yet not depend upon crowded floor surface spaces.

In the inbound stations the freight can be piled by the mechanical appliances so as to be most conveniently arranged for the draymen of the consignees, or segregated for any form of transshipment. The freight can be delivered by the same machinery upon the drays or upon the tailpiece of the drays. The drays are thus more quickly loaded, more drays can back up and can be loaded in a given time. Better service can thus be given to the consignees.

Outbound Freight Station

At the outbound freight station, the movements are from the dray to the outbound freight station, from the outbound station to the cars. In some cases the freight may be taken directly to the cars from the drays. As team freight is unloaded directly from car to dray at the inbound station, so at the outbound station cars are loaded directly from dray to car. The inbound station is in width from 60 ft. to 70 ft. and the outbound in width is about 30 ft. At the outbound station all movements can be performed mechanically. These consist in lifting from the dray, transferring to the floor of the outbound station, lifting mechanically from the floor and transferring upon the open cars and to the closed cars.

There should also be included within the scope of these movements the inspecting, the weighing and the routing. Often it may not be necessary that certain classes of l.c.l. freight should pass through the outbound shed.

The ancient methods of operation can supplement the later system. The old and the new can be operated simultaneously. Should it be desired to combine the inbound and the outbound stations, either together or at different places at the same station, then the same machinery can be used at the inbound as well as at the outbound station. At a transfer station, the number of strings of cars and number of cars in each string may be as desired.

If there should be nine strings of cars and twenty cars in each string, it is possible to transfer mechanically from any one car to any of the other 179 cars by a continual succession of rapid movements without congestion or confusion or rehandling by manual labor.

It is, however, necessary to have engineering advice as to the adaptation and adoption of the machinery so as to avoid possible mistakes. Such mistakes have too often occurred and in all cases are due to lack of engineering advice.

Conclusions

At railway freight stations, all kinds of miscellaneous freight can be successfully transferred and handled mechanically, thereby more than doubling the transfer capacity of a given station area, reducing the time of car detention with a corresponding reduction in terminal expenses.

Attaining commercial success of such a terminal installation is based upon a knowledge of the operating conditions and the performance of different types of machinery. This knowledge should be combined with experience with all the various conditions of railway freight terminals. Its success is therefore not a manufacturing problem, but one of terminal engineering.

*Former President, Society of Terminal Engineers. Consulting engineer of the State of New York on barge canal terminals.

The Plans for New Railroad Legislation

The Transportation Problem Will Not Be Lost Sight of While Congress Is Adjourned

REPUBLICAN LEADERS IN CONGRESS are already making plans for the extra session, which some of them say will be called by May 15, at which the question of permanent railroad legislation, as well as the appropriation for the Railroad Administration, will occupy an important place. It is assumed that the appropriation, along with the regular supply bills, will receive first consideration, but the committees on interstate commerce are planning early action on the problem of the disposition of the railroads after their relinquishment from federal control, and it is possible that hearings will be held before the Congress assembles. Senator Cummins, who will be chairman of the Senate Committee, has left Washington, but expects to return soon, and Representative Esch, who will be the chairman of the House Committee, has remained in Washington. Mr. Esch has given out an outline of a bill which he says represents his ideas as to what should be done, and which is in essentials the same as one he introduced in Congress a short time ago. It follows closely the suggestions made by the Interstate Commerce Commission, and it is reported that it was drafted at the commission's offices. A similar bill was also introduced by Senator Pomerene during the session. The fundamentals of the bill are as follows:

The return to private control of the railroads as soon as it can be accomplished without undue shock to the roads and the financial world. Government control would cease automatically on the enactment of the bill.

Increases in the powers of the Interstate Commerce Commission, especially in the power to initiate and fix maximum and minimum freight rates, including the power to determine rates on water transportation from port to port. This is designed to prevent railroads from destroying water competition.

Pooling of traffic and equipment under control of the Interstate Commerce Commission.

Complete federal control of the issuance of railroad securities.

Joint terminals wherever desired, compensation for owned terminals to be determined upon a fair and reasonable basis by the Interstate Commerce Commission.

Retention of state railway commissions, with power to sit with the Interstate Commerce Commission upon rate hearings, but without a vote upon decisions fixing rates.

Special designation of privately owned cars as common carriers, with especial reference to refrigerator cars owned by packing companies.

"The provision making private cars common carriers is far reaching in its effect," said Mr. Esch. "By making the refrigerator cars owned by the packing companies common carriers, at one stroke this would bring within the jurisdiction of the Interstate Commerce Commission all the alleged abuses complained of, arising out of the management of the refrigerator cars by the packing concerns. Given this power, it would seem to me that the Interstate Commerce Commission could adjust all matters relative to that situation."

Mr. Esch explained also that his proposed legislation will make it mandatory upon the Interstate Commerce Commission to take into consideration all labor costs in determining rates.

"I am clearly of the opinion that the state commissions should have unreserved control over what are termed police powers, and that on matters of purely local character their jurisdiction should outweigh the federal power," Mr. Esch said.

"It is highly desirable that Congress be reconvened at the earliest feasible day, not only in order to provide for financing the \$750,000,000 revolving fund which failed in the last Congress, but to define a permanent policy of government regulations."

A bill introduced by Senator Watson just before the adjournment of Congress (S. 5677) provides for rate making by the Interstate Commerce Commission on a basis to yield a return of 6½ per cent on the property investment of the carriers by groups with a provision for sharing with the government earnings above 7 per cent, for the avoidance of conflicts between state and interstate jurisdiction as to rate making, and for the enlargement of the powers of the Interstate Commerce Commission, to authorize it to compel joint use of railway properties where desirable, and to regulate the issuance of securities and to supervise the expenditure of the proceeds. The bill also provides for pooling and consolidations subject to the regulation of the Interstate Commerce Commission.

The bill provides that the rates now in effect at the termination of federal control shall continue to be the lawful rates until changed by order of the commission, both in respect of the service specified in the act to regulate commerce and in respect of service wholly within one state in cases where the relation between the intrastate rates and the interstate rates may affect interstate or foreign commerce, or subject it to discrimination, unreasonable prejudice or disadvantage. As soon as practicable after the termination of federal control, the commission would be authorized to prescribe and cause to be put into effect rates which may not be changed or departed from except by order of the commission. At the same time, the bill provides that the commission shall see to it that the rates for service within one state are not such as to injuriously affect interstate or foreign commerce and to that end the commission is authorized, whenever it deems necessary or proper, to prescribe the lawful rates for service wholly within one state. The commission is also required to make such changes in rates as will maintain the 6½ per cent return and to that end is authorized to prohibit rates which it shall find to affect injuriously interstate commerce, or which it shall find to be unreasonably low or unremunerative, and to prescribe minimum rates. The commission is also authorized to prescribe regulations to make adequate provision for depreciation and obsolescence of property.

Section 2 provides that whenever the net railway operating income shall for any fiscal year exceed 7 per cent, the commission shall within three calendar months ascertain the amount and the carrier shall within three additional months pay over to the treasury two-thirds of the amount so certified. Whenever the commission shall find that as to any carrier the income so fixed is or will be unfair or will deprive the carrier of just compensation because the property investment account does not adequately represent the value of the property, or for any other reason, the commission shall fix the just maximum income, it being the purpose of the act to raise and stabilize the credit of the carriers as a whole, but neither to raise nor to impair the financial standing of carriers whose credit is ample to furnish adequate facilities and service for the needs of the public. It is provided that no carrier shall from railway operating income increase the rate of dividends above the rate established prior to federal control unless it shall have expended or appropriated out of railway operating income for additions, betterments or improvements

PROPOSED RAILROAD PLANS

	RAILWAY EXECUTIVES	ASSOCIATION OF RAILWAY SECURITY OWNERS	INTERSTATE COMMERCE COMMISSION	WALKER D. HINES, DIRECTOR-GENERAL	BROTHERHOODS	VICTOR MORAWETZ	PAUL WARBURG
OWNERSHIP AND OPERATION	Private	Private	Private	Private	Government ownership. Operation by private corporation run by employees, which pays government a rental out of the receipts of operation.	Private	Private
MERGERS	Federal incorporation with mergers allowed, subject to approval of Secretary of Transportation.		Mergers of existing companies may be made in the public interest.	Roads of each locality to be combined into regional systems, six to twelve in number.	Roads all to be operated by one private corporation, stock of which is to be held in trust for the exclusive benefit of the employees.	Railroads to be consolidated into ten or fifteen Federal corporations. Present securities to be refunded by 4% debentures and stocks.	Under Federal franchise, mergers may be made, subject to supervision of Federal regulating body.
REGULATION OF SECURITIES	Federal control exclusively.	Under supervision of Regional and Interstate Commission.	Federal regulation of the issuance of securities.			Debentures and stock to be issued only as authorized by Federal Railway Board.	By Federal regulating body.
CONTROL	A cabinet officer "Secretary of Transportation" to be appointed. Interstate Commerce Commission should be relieved of executive and administrative duties, except as to valuation and accounting, and act as quasi judicial body. Regional Commissions.	Federal regulation through Interstate Commerce Commission, as at present constituted, co-ordinating with six Regional Commissions. Co-ordination between State and Regional Commissions.	Better defined relationship between State and Federal control. A broadening of Federal control.	Five-year extension of Federal control. Modified private operation and control thereafter. Government representation on Boards of Directors.	No "Secretary of Transportation" continuation of powers of Interstate Commerce Commission. The directors shall be selected, one-third by non-appointed employees; one-third by appointed officers and employees; one-third by President.	Federal corporations to be under regulation of a Federal Railway Board headed by Cabinet Officer. Specified number of directors of Federal corporations to be appointed by Federal Railway Board. Regional boards and one central board of regulation.	Regional Board upon which State commissions might be represented with a reorganized Interstate Commerce Commission of 5 or 7, half judicial and half administrative in character at head.
RATES AND RETURN ON CAPITAL	Regulation of rates by Federal government exclusively. Carriers may initiate rates which shall become effective unless disapproved by Secretary of Transportation. State shall specifically provide for adequate rates, which must reflect cost of wages and other expenses. Rates may upon complaint be brought before I. C. C. for review with power to prescribe minimum rates.	A minimum rate of return, fixed by Act of Congress, through rates adjusted as occasion may demand. Interstate rates to be left in hands of State Commissions.	Revenues should be "adequate" and "reasonable." No statement as to any change in the method of rate procedure.	Government to ascertain and guarantee railroads a fixed fair return.	Under regulation of Interstate Commerce Commission. When the government's share of the distribution of profits exceeds 5% of the gross operating revenues, reductions in rates should be made to absorb the 5%.	To be regulated by Federal Railway Board through central and regional boards; local rates to be referred to regional boards, through rates to central board.	Rates to be determined by Federal regulating body. Railroads accepting plan to be guaranteed 4 1/2% on Federal valuation.
DISTRIBUTION OF PROFITS		Earnings in excess of fixed reasonable return to be distributed among employees, railroads earning them, and for certain improvements not to be capitalized in rate making.		Profits above the specified fair return are to be moderately shared in by the railroads and the government, possibly also by labor.	Government guarantees return on bonds issued in exchange for existing capital. Any balance over this is to be divided between operating corporation and the government for the purpose of enabling the Interstate Commerce Commission to reduce rates. The operating company will disburse its share to the employees, in proportion to their annual wages.	Government to guarantee dividends of \$2.00; any distribution in excess of \$4. to be divided with government. Government to have option to buy stock at any time at \$85 per share.	Any return on capital between 6% and 7% to be divided with government and possibly with labor. All over 7% to go to government.
FINANCING	Provisions to be made for funding by the United States of indebtedness of carriers to it growing out of Federal control.	A Federal corporation directed by the nine Interstate Commerce Commissioners and eight railroad men to finance purchase of equipment from the Railroad Administration, purchase of new equipment, and financing of the return of the roads to private control.		Comprehensive program of capital expenditure during five-year period; probably to be provided partly by government; partly by roads themselves where able to borrow.	All financing to be done by the government.	Debentures to be issued to an amount such that interest requires 4 1/2% of operating income. Balance of operating income to be capitalized at 6% in stock.	
JOINT USE OF TERMINALS, ETC.	Subject to direction of the Secretary of Transportation; flag other similar matters.	To be arranged, also financing of freight, etc., by above Federal Corporation.					
WAGES	This and similar questions to be settled by officers and representatives of individual employees affected, if possible, otherwise by a board under the Secretary of Transportation.	Regional Commissions to act as Boards of Conciliation. Appeal to Interstate Commission.			A committee of nine directors of operating company empowered to make binding and final decisions in all wage disputes.		

on an average of the preceding two years subsequent to December 31, 1917, an annual sum equal to one-half of one per cent of its property investment account, and beginning at the termination of federal control and averaging by three-year periods, no additions to property investment account shall be considered by the commission in establishing rates or in certifying excess income, except in so far as the sum applied to such additions, from such income, shall exceed one-half of one per cent on the property investment, nor shall such sums be capitalized except in so far as they exceed one-half of one per cent. The purpose is to establish and enforce, so far as practicable, the policy of paying out of income the cost of necessary additions, betterments and improvements to road and equipment that do not directly produce or increase income and thereby avoid increases in the bases of rates or in the capital charges.

Section 3 authorizes the pooling of equipment or traffic or consolidations after having received the approval of the Interstate Commerce Commission as necessary or desirable in the public interest, to prevent unnecessary additions to the property investment or to avoid unnecessary duplication of facilities.

Section 5 makes it the duty of each carrier to provide its fair relative share of freight car equipment, measured by its freight ton miles and the number of cars required to make its average ton mileage movement. This section also authorizes the commission to require reports regarding the movement of freight cars, etc., and whenever congestion is threatened to designate an agent or agents to co-operate with the carriers in order to remedy the conditions by embargo license, diversion or other efficient means.

Section 7 provides for the establishment of regional bureaus subordinate to the Interstate Commerce Commission.

Digest of Proposed Solutions of the Railroad Problem

The Equitable Trust Company of New York has prepared the accompanying digest of the principal plans proposed at the hearings before the Senate Committee, regarding which it says:

"The digest, when analyzed, yields a composite plan, which may be regarded as a combined solution evolved by the best brains of the country.

"In the first place, we find that government ownership is almost altogether without support, except from the railroad brotherhoods as represented by their counsel, Glenn E. Plumb. The predominance of opinion is for private control under restrictions, designed to promote better, more efficient service than was possible under the old system. The extension of government control to the five-year period proposed by ex-Director General McAdoo likewise meets with little favor. In opposition thereto, it is argued that it would merely postpone the date of determining a problem which must come up for solution sooner or later; that it would tend to make the return of the roads to their owners more difficult; that it would place them in such heavy debt to the government that liquidation or refunding would be practically impossible, and that there is nothing in the railway problem which cannot be solved in 21 months as well as in 60.

"There is substantial unanimity that mergers should be permitted when in the interest of the public, and that the issuance of securities should be subject to federal control. The latter subject is closely related to the question of government guarantee of capital, for if the government is to undertake the assuring to the roads of a specified minimum return, it is only logical that it should have something to say as to the creation of new securities, and accompanying new capital investment. The plans of the Association of Railway Security Owners, of Paul Warburg, and of Director General Hines, all contain provisions for such guarantee. The railway executives do not suggest any-

thing quite so specific, but insist that rates shall be adequate as well as reasonable.

"The rate question, which is perhaps the most difficult of all to determine, is variously approached. There is a tendency to concentrate the rate-making power in federal authority without, however, entirely destroying the power of the state commissions. This is in line with the sensible policy of eliminating, so far as possible, the conflicts which are inevitable where there is dual authority, or where the federal authority may be hampered and its orders nullified by state action. There is, moreover, a sentiment in favor of an attempt to arrive at some precise figure which will represent equitable compensation to the security holders. Several of the plans contain suggestions for profit sharing with labor, with the government, or with both, in case profits shall exceed this figure. Here we have the community of interest idea, which has received widespread application in industry, proposed for a new field—transportation. The justice and economic soundness of its adoption will scarcely be questioned, though there will doubtless be conflicting ideas to be reconciled in working out precise details. From the standpoint of the security holders, the important features of a guaranteed minimum return, together with a division of profits above a maximum, means at the same time the elimination of uncertainty as the possibility of reduction of one's income below a certain feature, and the loss of opportunity for very marked appreciation.

"In other words, it would greatly stabilize railway securities and minimize their speculative features.

"The views in connection with methods of financing the roads are not at all in agreement. Particularly interesting is the novel proposal of Mr. Morawetz, who advocates the refunding of all existing securities by means of a fixed and continuing proportion of debentures and bonds. This would apparently give the debentures a high investment standing, and would still leave the stock sufficient equity, together with the minimum guarantee of \$2.50 per share by the government, to assure it of an investment character only moderately tinged with speculation.

"The successful features of government operation are not to be lost with the return of the roads to private control, if the ideas of several of the authors of the various railway plans are carried out. The joint use of terminals, the elimination of competitive features which yield no additional public service, such as separate ticket offices, almost identical passenger train schedules, etc., may be eliminated in the interest of economy.

"Some thought has also been given to methods of settling wage disputes. Three of the plans quoted aim to set up permanent organizations for the handling of these questions. Presumably a regular line of procedure for obtaining hearings and appeals would be instituted. If found workable, this would provide the machinery for proper consideration of, and decisions upon, this very vital matter."

The National Association of Railroad Tie Producers, St. Louis, Mo., has issued a circular calling attention to the fact that never in the history of the industry have weather conditions been more ideal than have prevailed for the last 90 days. There has been a minimum of snow and rain in the Southwestern region, thereby permitting not only the making of ties, but their hauling, the latter being an extremely important item for the producer with limited capital. These conditions account for the large production of ties which ordinarily would not come out in this region at this season of the year. The labor surplus prevailing in many parts of the country, however, has not helped conditions in the tie camps where there still exists a shortage of experienced tie makers, although many producers have offered increased wages.

Merchants' Association of New York Against Government Ownership

THE MERCHANTS' ASSOCIATION of New York City, one of the largest organizations of the kind in the country, adopting the report of a special committee recently appointed, has reaffirmed its position, taken on November 15, 1916, in opposition to government ownership of railroads and other public utilities. The special committee consisted of Frank R. Chambers, chairman; James G. White, Otto H. Kahn, Francis H. Sisson, H. H. Porter and Professor J. F. Johnson. Copies of the full report may be had on application to the secretary of the association, Woolworth building, New York City. Following are characteristic extracts:

Except under war conditions the sole plea that can be advanced to justify the operation by governments of public utilities is that governments can provide better service at less cost than can private operators—that is to say, the assumption that government operation is more efficient and less costly than private operation. We do not believe that this contention can be sustained. The fields of politics and economics are dissimilar and separate. The field of politics (meaning thereby the art of government) is mainly the regulation of conduct and the protection of rights. The field of economics is the production and utilization of material things. The principles, the methods and the machinery of political administration are wholly different from those of economic activities and not adapted nor adaptable to the latter. The differences are fundamental and cannot be reconciled. No business, whether public or private, can be operated efficiently and without great waste, under the constant injection at the top of new, untried and often unfit executives and managers; nor with the rank and file deprived, by lack of opportunity for advancement, of the incentive to zeal and energy.

In the case of private operation we find continuously brought into play the qualities and the conditions which tend to maximum business efficiency—experience, knowledge, special training, and the zeal arising from opportunity and self-interest. The successful management of any large business undertaking requires that the utmost freedom of action be granted to the executive. It is assumed as a condition of his employment that his experience, training and special skill will enable him to exercise a wide discretion so wisely as to promote the welfare of the business. His initiative is given full play and he is enabled, whenever occasion requires quick action, to do whatever is necessary to be done.

Public service plants publicly operated are frequently starved by reason of the failure or refusal of the public officials to approve the outlays, without which a high degree of efficiency cannot be maintained nor adequate service supplied. Long experience by this Nation in the distribution of money for public improvements has demonstrated beyond any question that the outlays for that purpose are largely determined by political influence, and but little by economic utility. Seven hundred million dollars have already been spent by the United States Government for the improvement of internal waterways, but there is no complete system; and most of the money has been expended for unrelated local improvements, entirely unwarranted by the possible benefits.

In New South Wales with the nationalizing of its railroads, employees, by reason of their organized political power, so far over-reached in their demands that a widespread public reaction was created, resulting in the disfranchising of government railroad employees, thus destroying entirely their political power by depriving them of their voting power. Wage-making for political rather than economic considerations is fraught with danger for all concerned. The multiplication of needless offices and superfluous employees is

universal in every branch of government service. The useless subdivision and the increase in officials in public management is mainly due to political causes, the obvious motive being to provide additional places for political henchmen. Because of these conditions the cost of performing the work is largely and wastefully increased. Under the present railroad control more than eleven hundred new officials are employed in the central administration at Washington in addition to an even greater number distributed in the offices of the regional directors. The aggregate expense of the present railroad administration has been increased by many millions of dollars annually, despite the widely heralded consolidation and unification whose purpose was to effect economy.

With the single exception of Prussia, State-owned railroads have been financial failures. In general, their rates are higher and their service poorer than those of privately operated railroads. The French State-owned railroads embody all the abuses referred to above. The French Government took over the Western system January 1, 1909. After five years of government operation, the gross revenue had increased by \$6,556,000. During the same period the operating expenses had increased by \$13,090,000.

As a result of their disillusioning experience several hundred American municipalities have discontinued their attempts to save money by carrying on a business undertaking through the machinery of politics. There are in America, apparent exceptions to the general rule of municipal inefficiency; but they are only apparent and not real. Seemingly excellent showings are frequently made. These usually cover only a short initial period. They generally only cover obvious current costs, and omit important factors of future costs. Loss in taxes, interest on investment, depreciation, amortization, extensions and betterments, rents and maintenance of public buildings whose costs are borne by other departments, are commonly ignored. By these omissions an apparently favorable financial showing is made, while a true accounting would show the reverse. Municipal operation has been successful in various European municipalities, notably Glasgow, but politics, in the American sense, does not enter into these municipal undertakings; municipal activities are in those cities regarded solely as business matters to be managed by business methods.

We are not unmindful of the defects that characterize the operation by corporations of public utilities, but we do not believe that those defects can be cured by substituting another method which in every respect of efficiency is much below the standards that generally prevail under private management. Other remedies than the substitution of methods abounding in greater evils should be found.

We believe that the public can best be served by utilizing the efficiency, enterprise and energy of private corporations for the continued operation of public utilities, under such public control as shall protect the public in its right to efficient service and fair rates; and at the same time assure to private capital invested in public utilities a fair return upon such capital. We do not find any change of conditions resulting from the war which warrant or require the previous position of The Association, in opposition to government ownership and operation, to be modified.

The Pacific Railway Club, San Francisco, Cal., has decided by unanimous vote to retain its present standard of membership, as set forth in its constitution; the club will admit to membership only persons actually engaged in railroad service, or those in the service of railroad regulatory bodies who have had at least three years of actual railroad service, and members of the faculty of colleges of recognized standing. Imposing these requirements the Pacific Railway Club continues to be the only club in the United States made up exclusively of railroad men.

Modern Tendencies in the Design of Roundhouses*

Increased Size of Locomotives Is Effecting Marked Changes in Engine Terminal Structures

By Gustave E. Lemmerich

Layout Engineer, The Austin Company, Cleveland, Ohio

ROUNDHOUSE CONSTRUCTION during the past year has varied almost with every road. The trend has been toward reinforced concrete construction, although wooden frame, brick-wall houses have predominated. The delay in getting authority to proceed and the need for getting construction under way promptly did not permit as careful a study to be made of new types of construction as has been the case in the past.

Another feature of engine terminal progress has been the impetus given the roundhouse standardization idea. One or two important roads have designed standard stalls and applied them to houses of different sizes at as many as 12 locations. This greatly reduced the time required to produce working drawings and permitted construction to get under way at all terminals at about the same time. Practically all the newer designs have increased head room to improve ventilating and daylighting, and the continuous monitor type is being more generally used.

The depth of the house has now been increased to practically 120 ft. on several important railroads. On the Pennsylvania Lines West the new roundhouses have a depth of 118 ft. 3 in.

There is also an increasing tendency to equip houses with

to 200 tons, installed in a back shop, to which rank the machine shop has been raised.

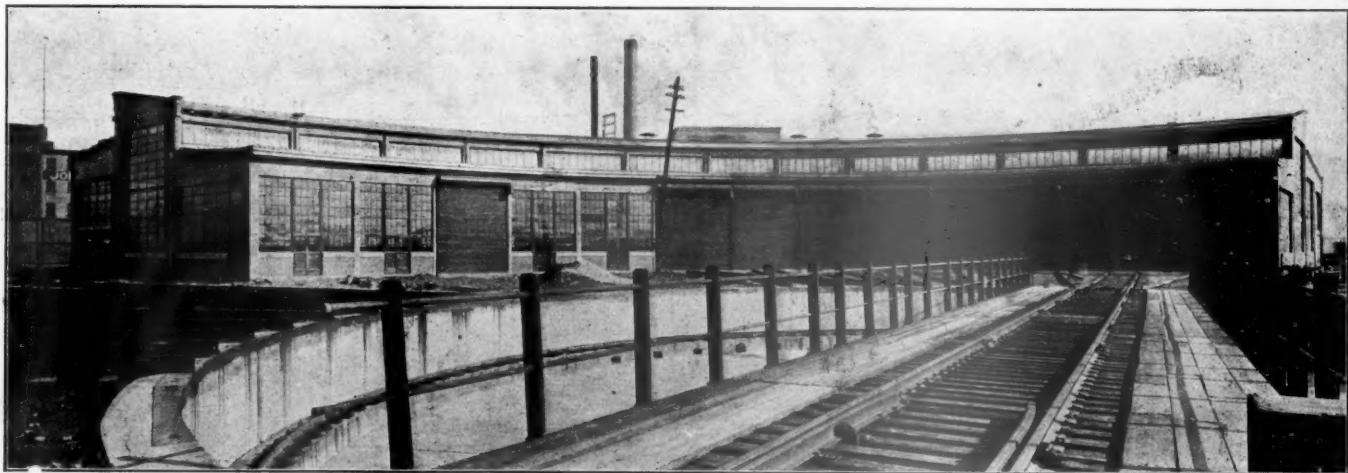
Size of the Roundhouse

The length of some of the latest locomotives is as follows:

Type of locomotive	Length over all, locomotive and tender
U. S. Standard, 6-wheel switch.....	66 ft. 9 in.
U. S. Standard, 8-wheel switch.....	70 ft. 0 in.
U. S. Standard, light Mikado type.....	82 ft. 0 in.
U. S. Standard, heavy Mikado type.....	82 ft. 4 in.
U. S. Standard, light Santa Fe type.....	87 ft. 4 in.
U. S. Standard, heavy mountain type.....	86 ft. 8 in.
U. S. Standard, tentative Mallet 2-6-6-2.....	about 99 ft. 5 in.
U. S. Standard, tentative Mallet 2-8-8-2.....	about 103 ft. 10 in.
Western Maryland Mallet, 2-8-8-2.....	102 ft. 10 in.
Virginian Mallet, 2-10-10-2.....	108 ft. 7 in.
Richmond, Fredericksburg & Potomac Pacific type.....	85 ft. 4 in.
Erie Triplex, 2-8-8-8-4.....	103 ft. 10 in.

There is hardly any doubt that the limit of the length of locomotives and tenders has not yet been reached. This is especially true of the length of the tender. This fact should be carefully considered for new roundhouses, where the status of the power in the engine district has not been fully developed.

Considering the foregoing points, the character of the road



A Three-Section Roundhouse with a Single-Section Monitor

bridge cranes and a number of roads have installed smoke exhaust systems. These serve two purposes—to eliminate the smoke nuisance and provide draft (in place of other means) for starting the fires.

These deep roundhouses, combined with the heavier and larger motive power will surely lead to a more careful analysis of the roundhouse situation. The unused area and the expensive roof construction will result in giving more consideration to the rectangular house. The heavy engines will also compel the more general replacing of the present method of raising engines with jacks, by the more up-to-date application of electric hoists. At more important points it is possible that this work will be done by cranes of capacities up

and the terminal in question, the following tentative stall lengths are recommended: 90 ft., 100 ft., 110 ft., and 120 ft.

(a) For short line roads, branch lines where no heavy power is required, and where locomotive not much over 70 ft. in length are used the stall length recommended is 90 ft.

(b) At unimportant terminals for smaller roads with comparatively light power and handling locomotives not over 80 ft. in length, the stall length recommended is 100 ft.

(c) For more important terminals, handling Mikado, 2-10-2, and a few 2-6-6-2 Mallet locomotives, the stall length recommended is 110 ft.

(d) For engine terminals, handling few 2-8-8-2 Mallets, besides the ones mentioned under paragraph (c), a combination of a 110-ft. house, with a few stalls of 120 ft. for the Mallets, is recommended. The section of the house should be such that extensions can be made readily.

(e) For important engine terminals, where a crane installation is desired for locomotives under 85 ft. in length, a 110-ft. stall length is recommended. For locomotives over 85 ft. in length or where more working space is found desirable, a 120-ft. house is suggested.

(f) At terminals where a few of the largest 2-10-10-2 type Mallets are handled, a similar combination to that outlined under (d) is suggested.

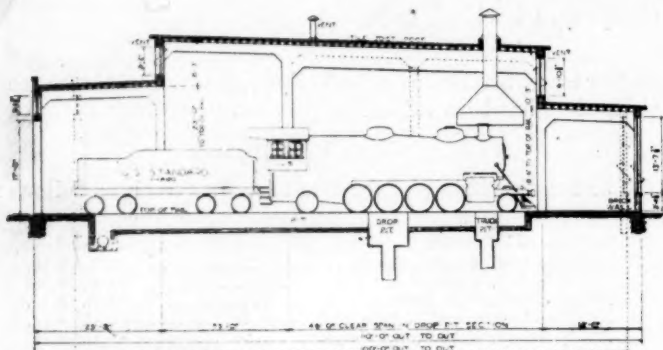
*This is the second of two articles on engine terminals. The first installment appeared in the *Railway Age* of March 7.

The depth of the Mallet section in this case, however, should be 125 ft. for Mallets up to 105 ft. For Mallets over that length the stalls should be lengthened correspondingly.

The number of stalls required for a roundhouse depends largely on the local traffic and other conditions existing at the terminal. These conditions are also subject to great fluctuation during the year and with the traffic seasons. For these reasons the ratio of the average number of engines handled

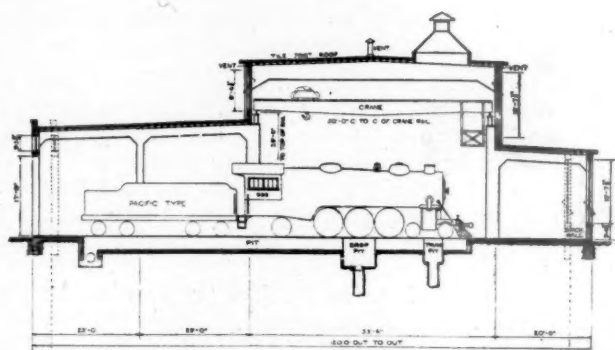
value of a well-heated and ventilated house at times when power is needed badly.

At important terminals a traveling crane of 10-tons capacity should be provided in the work section. It is a very useful appliance in these times when reliable man power is scarce. As a substitute a jib crane could be installed in each stall. A small self-propelled electric crane, designed



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A 100-ft. Roundhouse Without a Crane



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A 110-ft. Roundhouse With Provision for a Crane

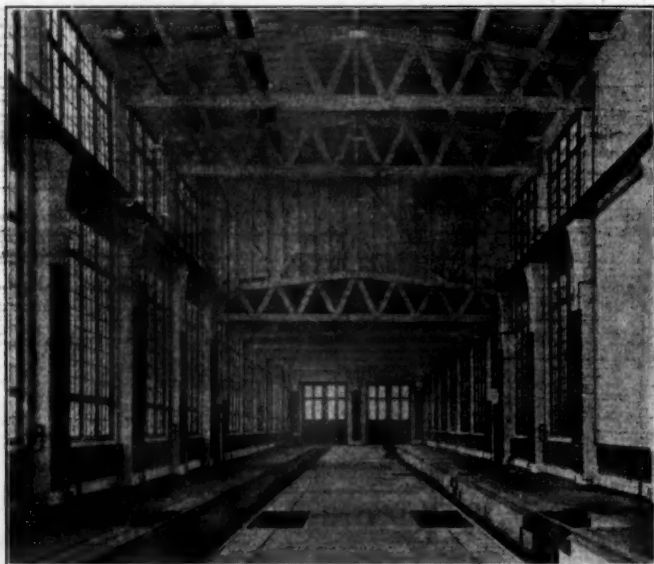
per day to the number of stalls in the roundhouse varies, say, from three to five or even seven to each stall.

The roundhouse should not be a storage place for engines. It is not designed for this purpose; it is too expensive; it is not in the right place nor under the right jurisdiction for this purpose. If covered storage should be found desirable,

on lines similar to a wrecking crane, and of about three tons capacity, would certainly prove to be a very economical appliance for transferring tools and machine parts between the roundhouse and the machine shop.

The pit walls should be three feet wide in the area where an engine is likely to be raised by jacks, and at other points a width of two feet will suffice. In case tracks should be extended beyond the pits, the rails should rest on concrete walls, to prevent breaking the pit walls. As a general rule the pit length is made about the same as the locomotive for which the house was designed.

Wooden swinging doors are generally preferred, although a number of recent houses have been fitted with steel or wooden slat rolling doors. At present doors are made about 14 ft. wide and 17 ft. high in the clear. Failure to provide substantially-built doors to withstand the rough handling



Interior of a Rectangular Engine House of the Longitudinal Type Recently Built

it can be provided in or near the engine storage tracks, in a partially open shed, designed for this function and of a cost in harmony with the purpose it has to fulfill.

Appurtenances

The roundhouse should be provided with as much glass surface as possible to provide liberal daylighting and it should be well heated and ventilated. For all practical purposes, the hot blast system seems to be best adapted to cope with roundhouse conditions. It will thaw out the engines quickly and provide a forced ventilating system, which is also desirable and economical. Such a heating plant must be installed on broad lines, with the full understanding of roundhouse conditions, and bearing in mind the immense



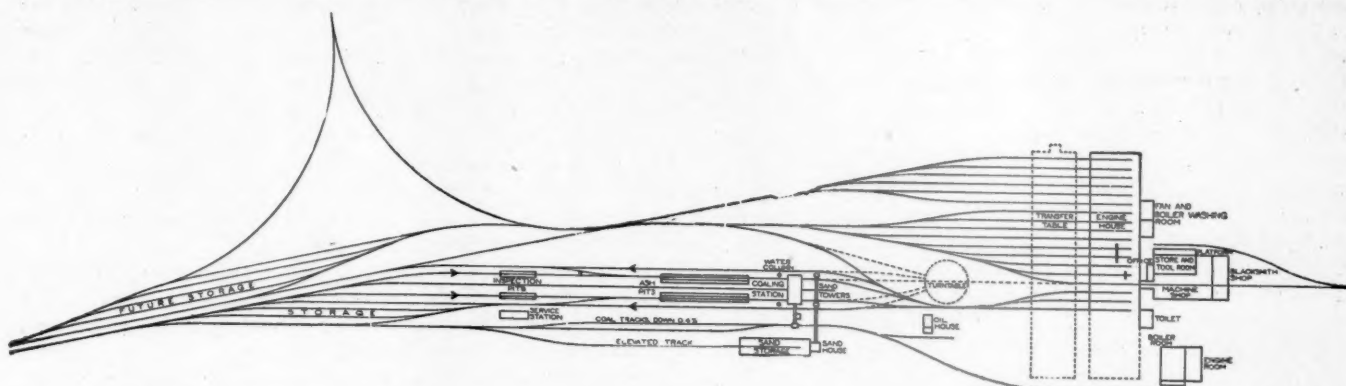
Exterior of Rectangular Engine House

to which they are subjected has resulted in larger repair bills than necessary. This latter point is responsible for limiting the glass area to 35 per cent in these doors, and on some roads no glass is used at all. A three inch door, heavily reinforced and trussed with steel angles and long strap hinges, is recommended. Another small but important feature is the latch post for holding the door open. In a reinforced concrete round house, it is good economy to design the girder

supporting the roof over the doors, so that if one post is hit by a derailed engine, the roof will be carried safely.

The rear wall of the roundhouse should be practically all windows. A height of at least 17 ft. from the top of the rail to the under side of the girder should be provided to clear a locomotive in case it should run through the rear wall. This wall as a rule is about 3 ft. 6 in. high and 9 in. thick.

Generally a transverse house is preferable to a longitudinal one, but local conditions may make the former out of the question. The rectangular house, owing to the parallel spacing of the pits, is much easier and cheaper to build than a roundhouse. A track spacing of about 20 ft. is recommended, and this will permit a large, high window to be placed between each set of doors. These windows will throw



Design of a Rectangular Engine House of the Transverse Type, Showing Relation to the Other Terminal Facilities

On some roads this wall is replaced in the center 12 ft. by a wooden or asbestos wall to simplify and reduce the cost of repairs.

Rectangular Houses

In some layouts the shape of the property makes a rectangular house fit better than a roundhouse. This is true for small as well as for large and important terminals. In small layouts a rectangular house is frequently selected, because a "Y" is already in place or easy to put in, thus saving the expense of a turntable.

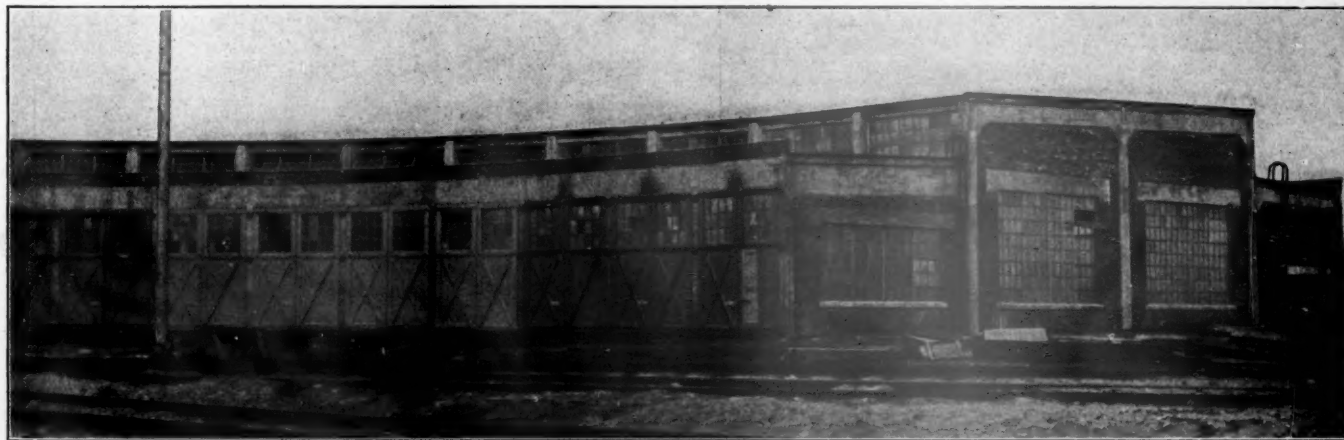
At large important layouts, the transfer table may be located between two transverse engine houses. In such a convenient and compact arrangement, it is possible to confine the very light overhauling to one house and place the

the light in the working aisles and all glass may be omitted in the doors, where it does not belong.

The Machine Shop

The importance of the terminal and local conditions are the determining factors for the machine shop. There is a tendency toward a more liberally equipped shop and the size has been increased accordingly. Experience has shown that at least 3,200 sq. ft. of floor space should be provided at even small terminals. This should be divided about as follows:

Machine shop	1,600	sq. ft.
Tool and store room.....	600	" "
Office	300	" "
Blacksmith shop	700	" "



A Four-Section Roundhouse with a Two-Section Monitor

pits for the running repairs and the back shop in the other house. In a layout for some important terminals, the rectangular house will, in most cases, require the installation of both a turntable and a transfer table.

One disadvantage of a rectangular house layout lies in the number of switches required when a transfer-table is not provided. These switches are objectionable on account of their high first cost and expensive maintenance. As the track entrance to the house is longer than one over a table, it also increases the running mileage of engines per year, but with proper design of the layout this may be greatly reduced.

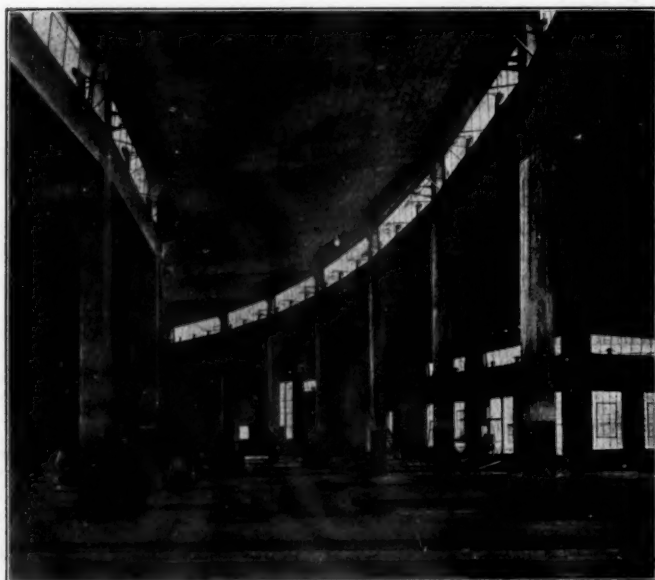
The shop should be back of the drop and removal pits and it should be directly connected with the roundhouse by a passageway. At more important points the shop should consist of a light and heavy machinery section. The latter should be served by a 10-ton traveling crane, or by jib cranes placed where most needed. The electric locomotive hoist should also be located in this part of the shop. The light machinery section could also contain the tool and store room. At important terminals the store room is frequently housed in a separate building. A good location for the engine terminal foreman's office is adjoining the tool room, so that on

some shifts one man could attend to both. The proper location for the blacksmith shop seems to be in the rear bays of the machine shop building. Some provision should also be made for locker and toilet facilities, either in the machine shop or in a separate building.

The Power House

In the new larger and higher roundhouses, especially those equipped with cranes, a better appreciation of good heating and ventilating and the increased application of air have added greatly to the importance of the power house. Consequently, the power house should be liberally dimensioned, as it is expensive and inconvenient to enlarge, and the surplus room for future needs is but a small percentage of the total cost. The boiler room should be served by an elevated track or a track hopper for coal delivery, and the plant should be located conveniently to the roundhouse fan room. At some of the more important points, it may be a paying proposition to install automatic stokers and coal hauling machinery to save man power. There should also be an ash conveyor, with a hoist to an ash storage bin, from which the cinders can be dumped into a cinder car.

The terminal should be well lighted, and an installation of



Interior of a Reinforced Concrete Roundhouse

high-efficiency incandescent lamps of the larger sizes is suggested.

A tentative scheme for lighting a roundhouse equipped with a crane, as illustrated in this article, is as follows:

No.	Lamp Size in watts	Location
1	75	Front section.
1	200	Second section.
3	200	Crane section.
1	200	Rear section.
1	200	Passageway.
2	200	Fan and boiler washing room.
1	200	Office.
6	200	Tool and storeroom.
4	200	Light machinery section.
11	200	Heavy machinery section.
8	200	Blacksmith shop.
5	200	In front of doors for a 20-stall house.

A sufficient number of portable 40-watt lamps for the pits, machine tools, etc.

The yard should be provided with a sufficient number of 500-watt lamps for flood lighting.

As a finishing touch to all engine terminals, convenient walks should be provided between the roundhouse, oilhouse, storehouse, powerhouse and other buildings. A driveway

from some outside approach leading to the storehouse and office is also desirable. In locating the driveway the question of fire protection should also be taken into account.

General Plans

After the general layout and details have been approved, general plans should be prepared, covering:

Drainage.—This embraces such facilities as inspection and ash pits, washing pits (if installed), water columns, the track hopper of the coaling station, turntable pits, oil house basement, roundhouse pits, including drop and truck pits, heating duct, power house pits, tunnels, etc. It also includes the sanitary sewage system.

Other facilities.—This covers the complete water pipe line system for locomotive supply, sanitary purposes, fire protection, etc.; also air and steam lines; a pneumatic tube line from the inspection pits to the roundhouse office and all electric lines for lighting.

A layout plan is prepared for construction purposes, analyzing the full scope of the work in all its phases. This should give quantities, the number of carloads of the different materials needed, the material tracks required at the different stages of the work, and the sheds and storage places required. On one of the plans the construction program could be indicated, giving the number of men to be employed on the different buildings in the consecutive stages of the work. This plan should also cover the grading, showing the quantities, overhaul, etc., the underground work, that is, the quantities of piping, etc., and the concrete work, buildings, etc. If a record of the progress is shown on these plans and prints are issued at regular intervals it will serve as a check on the work and indicate where adjustments in the pre-arranged schedule should be made.



From the N. Y. Tribune

It Doesn't Happen to Be That Kind of Animal

The Development of the Refrigerator Car Pool

Unified Control Instituted By the Car Service Section Proves a Boon to Shipper and Carrier

FOR THE PURPOSE of promoting more expeditious and economical handling of the refrigerator equipment required for the movement of perishable commodities and with "elasticity of equipment" as the proposed remedial measure, the Refrigerator Department of the Car Service Section of the Railroad Administration was established on July 1, 1918. W. L. Barnes, assistant manager of the Car Service Section and formerly superintendent of transportation of the Chicago, Burlington & Quincy, was placed in charge of the new bureau with headquarters at Chicago and he immediately introduced a system whereby all refrigerator cars were placed under unified control for distribution.

The pooling of ordinary freight equipment has long been advocated by many transportation and operating men, but owing to the varying degrees of protection required by different commodities and the independent railroad ownership of refrigerator cars by comparatively few railroads their pooling has been deemed impractical in the past. Separate refrigerator lines have been developed to handle specific classes of commodities produced in certain localities and these private lines have taken care of these special districts well. However, there are other producing quarters which have constantly been retarded in their development by the lack of suitable transportation facilities for their commodities, where the carriers serving them have been forced either by their financial status or the seasonal character of the commodities to forego developing adequate means for bringing these commodities to the market.

At the time the refrigerator car pool was established several important lines were in operation, each one of which operated one of the three types of refrigerator cars used in the handling of perishable commodities. The most highly developed type of refrigerator car was used by the packing industry for handling fresh meats and similar commodities requiring low temperatures and no ventilation. These cars are equipped with brine tanks, highly insulated throughout, but there were no means of ventilation. These cars were therefore not suitable for handling shipments requiring ventilation and accordingly were used wholly between the various packing plants and eastern markets.

The second type of refrigerator car other than those operated by the packers is equipped with ice bunkers and ventilators, making it suitable for handling perishable freight (other than fresh meat) either under refrigeration or ventilation. Among the private car lines which developed and operated refrigerator cars of this type are the Pacific Fruit Express whose cars operated from California, Oregon, Washington, Idaho and Texas to all points, particularly in central and eastern territory; the Santa Fe Refrigerator Despatch whose cars operate principally from California, Colorado, Arizona, New Mexico and Texas to central and eastern territory; the American Refrigerator Transit whose cars operate from points in Texas, Arkansas, Oklahoma, Louisiana, Kansas, Missouri and Colorado to central and eastern territory; the Fruit Growers' Express, operating from southeastern and eastern territory to central territory in the fruit and vegetable service; the Union Refrigerator Transit, whose cars operate out of New Orleans, La., and Mobile, Ala., in the banana traffic; and the Frisco Refrigerator Line, operating principally from Missouri, Arkansas, Oklahoma and Texas to central and eastern points.

The third and lowest type of refrigerator cars are insulated only, not being equipped with ice bunkers, tanks or

ventilators and are suitable for handling beer and ice or for the protection of commodities from frost. Several of the lines mentioned have developed this class of car. The St. Louis Refrigerator Car Company especially operates this type of car in the beer traffic of the middle west. The difference in these types of cars is due to the fact that fruit and vegetables not only require refrigeration, but also a good circulation of air, whereas in the handling of meat and packing house products the reverse is the case and little other than insulation is required for such commodities as beer and ice. There are at the present time in the United States approximately 20,000 standard brine tank refrigerator cars, 95,000 standard refrigerator cars suitable for handling shipments under refrigeration and ventilation and 21,000 insulated refrigerator cars suitable for handling such commodities as beer and ice or for the protection of commodities against frost.

Problems Confronting the Refrigerator Department

The problem confronting the new bureau was substantially the eradication of certain obvious defects in the existing methods of handling refrigerator cars. These defects fall into three general classes, all of which are the result of competitive conditions. The first of these and perhaps the most glaring from the viewpoint of efficient operation is the empty haul. Refrigerator cars loaded to distant markets over foreign lines had to be returned promptly to the owner roads under the old car service rules. For example, if the route of the loaded car was in the form of a zig-zag or if it included a wide detour to reach some particularly attractive market, the car if returned empty, had to pass over the same line which it followed in the loaded haul. If loading was available for the car at destination it had to be loaded to some road on the home route of the car. These restrictions necessarily limited the use of equipment.

Closely related to the empty haul problem is that of the availability of equipment. Under the old plan a railroad was not vitally interested in any shortage on other lines except possibly on its immediate connections; neither was a road under any obligation to render assistance in the way of equipment to other carriers. Cars returning empty over foreign roads to their owner roads might pass around localities where freight was waiting for shipment in the general home direction and this equipment might not be available for such business because of the necessity for following a specified route.

Another defect in the old system of operating refrigerator cars was the complex and inefficient method of handling the routine of car distribution. Cars unloaded on a foreign road had to be reported to the car accountant of the owner road who checked against the records to determine its return route and after an unavoidable delay issued orders for the disposition of the car, its route home and the instructions for getting it there. Meanwhile the per diem expense continued and the car was out of service.

This was the general status of refrigerator car distribution in all parts of the United States prior to February 21, 1917, when the car service rules were modified to some extent. The principle of the car pool, however, was not applied to refrigerator equipment until the creation of the Refrigerator Department of the Car Service Section. The establishment of unified control materially reduced the amount of empty haul. Railroads owning refrigerator cars no longer have their cars

returned directly to them. The aim of the Refrigerator Department has been to furnish all roads with enough cars, regardless of ownership, to fill their loading requirements at all times and if the equipment then on their own lines is not sufficient for their needs, the department has diverted enough cars from adjacent lines to cover the shortage. In the re-location and equalization of equipment, which is unavoidable under any scheme because of the seasonal character of some commodities, there still remains the problem of empty mileage, but these empty movements have been confined to the most direct route, thereby saving time and increasing the availability of equipment. The problem of the empty haul was still further met by the issuing of an order by the Refrigerator Department requiring the holding road to make not only such minor repairs to foreign equipment as were necessary to keep it in service, but to repair cars as the owner road would do had they been returned to it under the old plan. It can readily be seen that with the elimination of these two sources of delay, the work of the Refrigerator Department has proved advantageous to both the shippers and the carriers. In the execution of orders for the elimination of these two factors by the roads under federal control it was found that empty haulage was still further decreased by the removal of some of the chief causes for the bad ordering of cars and their consequent removal from service. Yard switching and classification have been minimized. Especially in the handling of empties in yards had this bad-ordering been prevalent, and any reduction in the necessity for such switching has consequently meant a proportional decrease in the number of cars injured.

In discussing this added availability under the new plan the points already stated, namely, the elimination of the empty haul due to the necessity for the return of cars to the owner road and the reduction in the bad-ordering constitute two of the main points in favor of centralized refrigerator car control. Obviously the enforcement of these measures meant more cars available for the carriers with which they could handle such increases in production of certain commodities as the producer might effect. Added to the increased availability already brought about by these changes was the ending of the delay incident to the reporting of cars to the owner road and the subsequent waiting for instructions as to their disposition. Instead, upon being unloaded, cars are immediately made available for further use according to rules promulgated by the Refrigerator Department. If no loading is available at destination the cars are moved immediately to other sections in need of cars. The car service representative at the unloading point has them reloaded promptly, providing commercial freight suitable to be placed in the car or a perishable commodity which the cars were suited to handle is available. Under all conditions they are kept moving in the general direction of a section in which commodities they are especially suited to handle are produced, for standing instructions sent out by the refrigerator bureau provide for the movement of specific types of cars in certain general directions. Exceptions to these rules are made from time to time by the bureau to meet certain conditions of supply and demand which arise.

The whole subject of car distribution was simplified and cleared by these directions. Agents of the car service sections know the probable time of the arrival of cars and either load them immediately or order them moved empty in the direction of their usefulness.

It can readily be seen that by the elimination of these operating losses it has been possible to give the shipper throughout the United States improved service in so far as car supply is concerned. Data compiled by the Car Service Section showing the percentage of cars supplied on loading orders during 1918, as compared with the previous year indicate that, since the organization of the Refrigerator Department in July, every railroad under federal control has been

able with few exceptions to offer its shippers all the cars they needed, whereas in the previous year in many cases the shippers were able to get but a small percentage of the necessary cars. Only 21 of the 105 roads covered in the report showed decreases in the percentages of cars supplied on loading orders during any month of this period and these decreases totaled but 42 road months or an average of two months per road for the 21 roads. These figures show merely the cars supplied on loading orders and do not show the relation between the number of cars ordered and those actually utilized, for it is often the case that the estimates of equipment requirements are in excess of the number of cars loaded.

This improvement in car supply has been made in the face of increased production of perishable product in nearly every part of the country. For example the production of apples in the Northwest was 25 per cent heavier than before, the New York Central traffic in perishable commodities was the heaviest in the history of the road, the Great Northern has handled 4,000 cars of potatoes and 2,000 cars of fruit in excess of the previous year's record, the production of Georgia peaches increased greatly, 1,000 more cars being handled than last year, and the Wisconsin lines have had an exceptionally heavy movement of cabbage and other perishables; yet the roads in these territories have been able to handle this added traffic easily.

The Opinion of Shippers and Carriers

Associations of shippers, at first skeptical of the pooling plan, have been convinced of its efficiency and have repeatedly complimented the Refrigerator Department. A majority of the carriers have also been pleased with the new plan and have co-operated with the refrigerator car bureau to the fullest extent. On the other hand there is a legitimate argument against the plan on the part of the larger railroads owning refrigerator cars for they have invested large sums in these cars and in creating an organization to handle them and they have pledged themselves to provide the producers in those parts of the country served by their lines with certain types of refrigerator cars and with a certain class of service. It is to their advantage if competitive conditions are to return to observe these understandings strictly. To avoid criticism from this source the Refrigerator Department has endeavored to keep certain types of cars in the same service they were formerly in, for instance, the cars of the Santa Fe Refrigerator Dispatch and the Pacific Fruit Express, which have always been engaged in the moving of California and Colorado fruits are now loaded to or in the direction of or billed empty to California when they are released at their destination.

How the Refrigerator Department Works

The records of the Refrigerator Department show that there are approximately 136,600 refrigerator cars under their control in the United States. While the routine work in keeping track of these cars in one bureau appeared large at first, not only have accurate records of every movement of these cars been kept by a comparatively small force, but they have been so kept that the location of any types of cars can be told at a glance. Telegraphic reports are received from terminals showing the types of refrigerator cars loaded, delivered or received from day to day. Passing reports are also made by divisions on the movement of cars through their territories and these reports are entered on large sheets which show the location of each type of car by roads.

On another large sheet, the information sent in by agents of the bureau is summarized weekly by showing under the heading, "Preceding Week," the cars required by different roads and the cars loaded and under the heading, "Succeeding Week," the cars required (estimated on loading orders at the terminals) and the estimated cars available to fill these

orders. By intelligent study of these charts, orders for relocation and equalization of equipment are issued from the central office.

The Future of the New Plan

* The maintenance of this system leads logically toward the standard refrigerator car, applicable for the handling of any perishable commodity. In the past railroads have purchased refrigerator cars generally to suit the commodities in which they were principally interested and when loaded to various points throughout the country become badly scattered. Being equipped only for certain classes of perishable freight, they

frequently fail to meet the specific requirements of the roads on which they may be released, whereas if refrigerator cars were standardized, it would allow the arbitrary movement of all refrigerator equipment from roads which have a surplus, to those originating traffic.

Whether this new plan will be retained by the United States government direct or through the Railroad Administration or under the direction of a department created by the railroads themselves after the readjustment period cannot be foretold; nevertheless the problem and its solution is vitally interesting to the producer, the distributor, the carrier and even to the ultimate consumer.

Southern Region—Operating Conditions

The Only Region Which Earned Net Income in 1918 Sufficient to Meet the Government's Guarantee of Rentals

THE CHARACTERISTIC of the south in normal times is the high proportion of railroad mileage to the amount of traffic to be carried. A period, therefore, of prosperity in the south and increased traffic movement has generally been reflected in comparatively large increases in net operating revenue of the southern railroads. The Southern region of the United States Railroad Administration which is under the direction of B. L. Winchell, is a natural unit. It includes the roads south of the Ohio and Potomac rivers and east of the Mississippi, with the exception of the three coal roads, the Norfolk & Western, Chesapeake & Ohio and Virginian, which were logically formed into a separate region, the Pocahontas. Of the roads placed under Mr. Winchell's direction, the Atlantic Coast Line, Louisville & Nashville, and Nashville, Chattanooga & St. Louis and the Illinois Central were strong financially and have the reputation of having been particularly well operated. The Southern Railway was by no means as strong financially, but great improvements have been made, both in operation and in the physical condition of the property, within recent years. The Seaboard Air Line is the weakest of the larger southern roads financially, but has been particularly well and economically operated since W. J. Harahan has been president.

The Southern Railway has been engaged for a number of years on one of the largest railroad improvement schedules undertaken by any road in the country in recent years. This is the double tracking and, in large part, relocating of the main line from Washington to Atlanta, Ga. The work has been going on for so many years and had at times to proceed so slowly that comparatively few people fully appreciate the magnitude of it. From an old, single-track crooked line, with innumerable six-degree curves and 1 per cent grades, this main trunk line into the south has been converted into a double track, rock-ballasted line

with maximum curves of four degrees and with a maximum grade of six-tenths of one per cent. This line is completed with the exception of a comparatively few miles near Toccoa, Ga. It would be hard to exaggerate the importance of the part played by it in the operation of the Southern region. It is probable that it would have been physically impossible to have handled the amount of traffic which the Southern region was called upon to handle in 1918 had the Southern Railway's double track line to Atlanta been much less nearly complete.

Charles H. Markham was appointed regional director of the Southern region with office at Atlanta, on January 18, 1918, and was succeeded, when he was transferred to the Allegheny region, June 1, by B. L. Winchell. The operating heads of the roads, under private operation, were in most cases made federal managers of the property, under government operation. Thus, E. H. Coapman, vice-president in charge of operation of the Southern, was made federal manager of the Southern Lines; C. M. Kittle, vice-president of the Illinois Central, was made federal manager of that property; W. J. Harahan, president of the Seaboard Air Line, was made federal manager of that property; J. P. Beckwith, vice-president of the Florida East Coast, was made federal manager of that property; W. L. Mapother, vice-president of the Louisville & Nashville, was made federal manager of that property and of the Nashville, Chattanooga & St. Louis. The Atlantic Coast Line was placed under Vice-president Lyman Delano as federal manager.

B. L. Winchell has had a very long career both as an operating and traffic man and, prior to his appointment as regional director, had been director of traffic of the Union Pacific.

The South has been a land of camps. There were 22 of them situated south of the Ohio river and east of the Mississippi. Not only did this necessitate a very large movement of materials, first for building the camps and then for supplying troops located therein, but it also disrupted the ordinary flow of traffic to a tremendous extent. There was, of course, a great troop movement and this was done on very short notice and, necessarily, absolutely regardless of cost. An order would be given for the movement of 25 troop trains, and 25 freight trains would be immediately placed on sidings or in yards and the locomotives so released would be used to move the troop trains. Passenger equipment had to be gathered up from all parts of the country; Pullman and tourist sleeping cars were by no means sufficient to supply the needs of such movement and it was necessary to send, in some cases, as far away as the northwest to get



B. L. Winchell
Regional Director, Southern Region

coaches. In studying the financial results of the Southern region, this great movement of troops into and out of the camps must be borne in mind. Passenger business is seldom as profitable as freight business and besides the extraordinary expenses that are connected with troop movement there was the added expense of delays to freight trains through the commandeering of freight locomotives.

The Southern region as a whole paid a lower scale of wages than did some of the other regions prior to the wage increases made by the government. The increases, therefore, in the south were greater in proportion than they were on many northern and western roads. Notwithstanding this fact and the expenses incident to troop movement, the region earned more than \$12,000,000 in excess of the guaranteed standard return.

Some saving from the short routing of freight undoubtedly was made and some friction was caused to shippers by re-routing, but in general an attempt was made to give the shipper what he was accustomed to where this was not inconsistent with the general scheme of operating the region as a unit.

The fact that the Southern region had no great complicated problem such as each of the other three regions in the eastern part of the United States had, permitted concentration on operating problems which it is safe to say goes far toward explaining the success which the roads in this region had in holding down operating expenses. It may appear slightly fanciful to ascribe a large part of the increased net earnings to so intangible a thing as the state of mind of the operating forces of the southern roads, but, nevertheless, there is an inescapably large amount of evidence to this effect; each item, small in itself, but large in the aggregate, pointing to greatly increased efficiency due to more fully aroused interest in employees and officers. Especially is this so on the Southern Railway. There is a really remarkable general attitude of being up on their toes among operating men on the Southern. One phase of this deserves mention; the lengthening of schedules of passenger trains permitted and encouraged a drive for trains being on time. In times past, the south has suffered probably more than its share from trains being late. At present, a fine record is being made in this respect. What applies to passenger train movement also applies to the elimination of delays in freight service. Engines are turned more promptly; less time is lost in yards; it is apparently just a combination of all the little things that go to make up better railroading which explains the showing made by the Southern region.

By far the largest increase in gross earnings, proportionately, is in passenger earnings. The Illinois Central passenger earnings increased 20 per cent in 1918 over 1917; the Atlantic Coast Line 43 per cent; the Louisville & Nashville 50 per cent; the Southern Railway 68 per cent; and the Seaboard Air Line 69 per cent. While it is true that troop movement has to be carried out regardless of expense, nevertheless, such very great increases in passenger revenue, as was shown by these roads in 1918, were sufficient to offset pretty heavy increases in expenses and still carry over some contribution toward net earnings.

Freight revenue showed substantial increases but on no such scale as passenger revenue. The Seaboard Air Line freight revenue increased 14 per cent; the Atlantic Coast Line 26 per cent; the Illinois Central 26 per cent; the Louisville & Nashville 28 per cent; and the Southern Railway 30 per cent.

Maintenance expenses on all of the roads increased heavily, and especially was this so with maintenance of equipment. On the Louisville & Nashville, for instance, the increase in maintenance of equipment expenses in 1918 as compared with 1917 was 57 per cent, and on the Southern Railway it was 67 per cent.

The increases in transportation expenses were no more than proportionate to the increased wage scales and the larger volume of business. Thus, on the Atlantic Coast Line they amounted to 45 per cent; on the Southern Railway to 53 per cent; on the Louisville & Nashville to 55 per cent; and on the Seaboard Air Line to 50 per cent.

What will happen in the Southern region in 1919 is an interesting problem. The south, depending for its prosperity so largely on the price of cotton, is now in a state of great uncertainty. The bid price for cotton has taken a rather startling drop, but, on the other hand, the owners of cotton are holding on to it with grim determination. At times the buyer and seller of cotton are 15 cents apart in their estimate of the proper market price. When we think that up to 1916 the difference in price per pound of cotton between 10 cents and 15 cents made the difference between a year of depression and a year of great prosperity in the south, it is easy to realize the extent of the uncertainty which is reflected in a bid price of 20 cents and an asked price of 35 cents for cotton. Sales at present are taking place at Savannah at about 27 cents, but it is estimated that only a very small part of the cotton crop for 1918 has actually moved to market.

Although cotton carries a high freight rate, the importance of it as a commodity to the railroad companies is much less than the importance of the buying power which high-priced cotton gives the south, or lack of buying power because of low cotton prices. Nevertheless, the tonnage of cotton which the railroads can still count on having to move is considerable and will be a factor in 1919 earnings. If this cotton is sold at high prices, there is a good prospect of the south enjoying a continued period of prosperity which should be reflected in railroad earnings; but even great prosperity will hardly take the place of the traffic—passenger and freight—which was furnished by the military camps. The railroads of the south, like those of the rest of the country, have no immediate prospect of any important reduction in costs of labor or materials. The Southern region made an extraordinarily fine showing in 1918; the prospects for 1919 are not so good.



From the Baltimore Sun

A Fairy Godmother Appears on the Scene

Doings of the United States Railroad Administration

Director General Hines Is Using Every Effort to Arrange for Financial Aid to the Roads

WASHINGTON, D. C.

THE PROBLEM of how to get along without \$700,000,000 until the President sees fit to call an extra session of Congress at which the difficulty may be remedied has given Director General Hines a busy time since March 4, but progress has been made on expedients for tiding over the situation until Congress can act, and it is hoped that a definite plan may be announced in another week. After a series of conferences with the secretary of the treasury, the directors of the War Finance Corporation, members of the Railroad Administration Advisory Committee on Finance and a number of prominent bankers, a partial solution was suggested at a meeting with a committee of railroad executives on Tuesday when Mr. Hines announced that he was considering the advisability of having the Railroad Administration issue, under reasonable conditions and limitations, warrants for amounts due the railroad companies for their rental for 1918, in such a form as would serve as collateral for railroad companies desiring to make loans through banks, the warrants to be taken up by the Railroad Administration when Congress makes the appropriation needed to meet the situation.

The administration owed the railroad companies on account of their rental as of January 1, \$381,000,000, after making such deductions toward the cost of capital expenditures as it is authorized to make under the compensation contracts and after deducting sums due the government on open account, but outside of the 35 roads whose contracts are signed, the companies have nothing to show for it except a law which authorizes the government to guarantee them an amount "not exceeding a sum equivalent as nearly as may be" to their average net operating income for the three pre-war years. They know that the Interstate Commerce Commission has certified the amount of this "standard return" and they know that the contracts that have been executed provide for the payment of the full amount of the standard return in each case, but it is believed that an acknowledgment of indebtedness on the part of the government will afford them a more substantial basis of credit. Such warrants would not be discountable or negotiable, but they would be assignable as collateral, and the director general would require no specific authority to issue the warrants.

The situation of the equipment companies, to which the administration is obligated for \$286,000,000 for cars and locomotives ordered last year, payable as the equipment is delivered, was to be discussed at a conference with the manufacturers on Thursday. The warrants might also be used to pay for the equipment, as equipment trusts cannot be used until after the equipment is turned over to the railroads.

At the invitation of Mr. Hines a conference was held on Tuesday between the director general and a group of representative railroad corporation executives, members of the War Finance Corporation and members of the Advisory Finance Committee of the Railroad Administration to discuss the financial situation facing the Railroad Administration and the companies as a result of the failure of the Congress to pass the \$750,000,000 appropriation requested by the Railroad Administration.

In order to get the problem before the conference, the director general outlined the immediate necessities of the situation as follows:

AMOUNT NEEDED UP TO JUNE 30

For interest and other corporate requirements of the railroad corporations	\$166,066,762
To meet amounts due equipment companies from the Railroad Administration	183,681,965
To pay for indispensable additions and betterments, including equipment ordered by railroad companies	110,000,000
To meet maturities of the railroad corporations	100,948,965
To meet excess of cash requirements to pay current vouchers over the probable receipts up to March 31	101,000,000
To bring cash balances in hands of federal treasurers up to \$200,000,000, which is the normal requirement for one month	40,000,000
Total	\$701,697,692

The item of \$166,000,000 includes dividends and is an estimate of what will be required in addition to what the companies can provide from other sources.

It was made clear that to a large extent it will be necessary for the railroad corporations to meet their requirements by obtaining loans from bankers, the resources of the War Finance Corporation to be reserved to protect special cases.

The War Finance Corporation has some \$300,000,000 available for loans, and it is reported that the banking interests had been inclined to take the position that these resources should be taken advantage of before private financing is resorted to, but the Shipping Board and other government departments also want some of the money, and moreover the ability of the War Finance Corporation to make loans is limited by the statutory requirements as to security. While some of the stronger railroad companies might be able to meet the requirements, the roads which are less able to borrow on their own account in many cases could not furnish the security required by the corporation.

Eugene Meyer, Jr., manager director of the War Finance Corporation, assured the director general and the conference that the corporation was desirous of doing everything possible to assist in meeting the situation, having in mind the interests of the government in protecting loans and the legal limits placed upon the corporation.

The director general and the conference generally proceeded on the view that it was highly desirable to devise ways to provide for payment of bills and have the situation met through financing rather than by a general suspension of work which would have a deterrent effect upon business generally.

Following the morning conference, the railroad executives met in the afternoon and adopted the following resolutions:

RESOLVED:

1. That it is the sense of this conference of railroad executives that the railroad companies will, in the present financial emergency, co-operate in every practicable and reasonable way with the Railroad Administration in its efforts to provide for financial requirements pending an appropriation by Congress to relieve the situation;

2. That, while the problems to be met are largely matters between the individual roads, the Railroad Administration, the War Finance Corporation and the bankers, it is deemed wise to have the general subject supervised, on behalf of the railroad companies, by a central committee, with power to consider the questions involved and to give such aid and co-operation, and to make such suggestions, as may be possible, to the individual roads, to the director general, to the War Finance Corporation and to the bankers; it being understood that such committee is not to have power to commit any individual company without its assent;

3. That the chair be, and hereby is, authorized and requested to appoint such committee, to consist of seven mem-

bers, of which Howard Elliott, the chairman of this meeting, shall be ex-officio, chairman.

The chair thereupon appointed the following committee: Howard Elliott, Albert H. Harris, Robert S. Lovett, Samuel Rea, Henry Ruhlender, Henry Walters, Daniel Willard, Alfred P. Thom, counsel; George M. Shriver, in charge of accounts, and E. G. Buckland, secretary.

This resolution was presented to the director general, who held a brief conference with the members of the committee and expressed his gratification over the attitude adopted by the executives, adding that he was very happy to have the committee to co-operate with the Railroad Administration. A further meeting was arranged for Thursday between the director general and the members of the committee of executives, and on Wednesday Mr. Hines discussed the subject further with the secretary of the treasury, the War Finance Corporation, the Federal Reserve Board and the comptroller of the currency.

The conference on Tuesday was attended by the following: Walker D. Hines, director general of railroads; Howard Elliott, chairman, Northern Pacific; R. S. Lovett, president, Union Pacific; Daniel Willard, president, Baltimore & Ohio; Samuel Rea, president, Pennsylvania; Woodward Hudson, president, Boston & Maine; Harry Bronner, president, Missouri Pacific; vice-president and general counsel, Great Northern; H. Walters, chairman, Atlantic Coast Line; Charles B. Perkins, president, Chicago, Burlington & Quincy; F. D. Underwood, president, Erie; W. H. Williams, chairman, Wabash; W. K. Vanderbilt, Jr., president, New York Central; A. H. Harris, vice-president, New York Central; Charles A. Peabody, president, Illinois Central; E. G. Buckland, president, New York, New Haven & Hartford; Agnew T. Dice, president, Philadelphia & Reading; William H. Findley, president, Chicago & Northwestern; L. E. Johnson, president, Norfolk & Western; representative and counsel, Seaboard Air Line; Henry Ruhlender, president, St. Louis-San Francisco; Charles E. Schaff, receiver, Missouri, Kansas & Texas; Fairfax Harrison, president, Southern; Alfred P. Thom, general counsel, Association of Railway Executives; Franklin Q. Brown, chairman, Finance Advisory Committee; Frederick W. Scott, member Finance Advisory Committee; James N. Wallace, member Finance Advisory Committee; Eugene Meyer, Jr., managing director, War Finance Corporation; Clifford M. Leonard, director, War Finance Corporation; Angus W. McLean, director, War Finance Corporation.

Division of Finance and Purchases Reorganized

John Skelton Williams has resigned as director of the Division of Finances and Purchases of the Railroad Administration, effective March 15, and the division will be divided into two new ones, the Division of Finance and the Division of Purchases. Swagar Sherley, chairman of the House Committee on Appropriations in the Sixty-fifth Congress, who had charge of the railroad appropriation bill which passed the House, has been appointed director of the Division of Finance, effective about April 15, and Henry B. Spencer, now chairman of the Central Advisory Purchasing Committee, has been appointed director of the Division of Purchases, effective on March 15. For the time being, Director General Hines will himself direct the work of the Division of Finance with the assistance of the associate director of the Division, Charles B. Eddy.

Mr. Williams will become chairman of an advisory finance committee, which will be expected to submit to the director general from time to time its advice on matters of financial policy and also to make to the director general preliminary reports on any proposed reorganizations which may require his approval. He will also become chairman of an advisory committee on purchases which will be charged

with authority to investigate and advise on important questions of policy involving the purchase of materials and supplies for the railroads. He will also remain on the staff of Director General Hines and will continue to preside at staff conferences in the absence of the director general.

Mr. Sherley is a native of Louisville, Ky., and is a lawyer by profession, having begun practice in 1891 in Louisville, following his graduation from the University of Virginia. He was a member of the House of Representatives in the 58th, 59th, 60th, 61st, 62nd, 63rd, 64th and 65th Congresses. For a number of years he has been a member of the House Appropriations Committee and succeeded Representative Fitzgerald of New York as chairman of that committee. Through his long service on the Appropriations Committee, he has become unusually familiar with government finances and has become an expert in extricating the essential facts from a great mass of financial details.

In announcing the appointment Director General Hines said:

"I have known Mr. Sherley personally for many years and have always had an unusually high regard for him as a lawyer and as a man. I deem myself very fortunate in having succeeded in persuading him to accept the appointment as Director of the Division of Finance of the Railroad Administration. I have been in intimate contact with him recently during the consideration before the Congress of the appropriation requested by the Railroad Administration and have been deeply impressed by his knowledge of financial and legal problems, the thoroughness of his methods and the accuracy of his insight. He strips away the unimportant and deals with the very heart of his problems."

Mr. Spencer was appointed chairman of the Central Advisory Purchasing Committee on its organization last year and has retained his office as vice-president of the Southern

Railway System, which he now resigns. He was born December 16, 1872, and after his graduation from Harvard University in 1895 he entered railway service as a clerk to the superintendent of the Elgin, Joliet & Eastern. In January, 1897, he was made chief clerk to the superintendent and in December, 1897, he was appointed assistant superintendent of the Alabama Great Southern. From September 1, 1898, to January 1, 1901, he was superintendent of the Louisville division of the Southern Railway,



H. B. Spencer
Director of the Division of Purchases

tendent of the Louisville division of the Southern Railway, from January 1 to February 1, 1901, assistant general manager of the St. Louis-Louisville lines and from February, 1901, to April 1, 1905, general manager of the same lines. On April 1, 1905, he was appointed general manager of the Southern Railway System and on November 1, 1906, he was elected vice-president.

Correspondence between Mr. Williams and the director general regarding this change was made public by the Railroad Administration. Mr. Hines, in his letter to Mr. Williams accepting the resignation, testifies in the most unqualified terms to the patriotism, integrity and self-sacrifice with which Mr. Williams has discharged the duties of his position and expresses satisfaction that he will still be able to give him the benefit of wise counsel, long experience in high standards of public service in an advisory capacity.

Mr. Williams' letter of resignation says the time has now come to put fully into effect changes in the organization which he had discussed with Mr. Hines on February 12, at which it was agreed that the business of the Division of Finance and Purchases had reached proportions to justify separation into two divisions, each receiving the entire time of an administrative head. The letter says that while arrangements were being made for the working out of this adjustment, Representative McFadden had introduced in the House of Representatives a resolution for the investigation of Mr. Williams' work, both as comptroller of the currency and director of the Division of Finance and Purchases. After discussing Mr. McFadden's charges, Mr. Williams says that as Congress has adjourned without further attention to the McFadden resolution, it is now possible for him to tender his resignation. Mr. Williams' reappointment as comptroller of the currency was not confirmed by the Senate, but he continues to hold the office through a Treasury Department appointment.

Railroads Aided Mobilization

Appreciation of the excellent work performed by the railroads and the Railroad Administration in handling the large troop movement when the work of mobilization was at its height, is included in a report of the Provost Marshal General to the Secretary of War on the operation of the selective service system. The report says the nationwide distribution of the camps to which the selectives were to be sent complicated the entraining problem and required the most careful handling. Before a call could issue the Railroad Administration required 14 days' notice, of which eight days were used for the compilation and printing of train schedules, and six days were needed by the local boards to notify registrants and to allow them sufficient time to arrange their affairs before leaving for camp. The schedules compiled and published by the Railroad Administration provided as carefully for a contingent of one man as for a contingent of 100. By working out every detail in advance the mobilization proceeded in a smooth and orderly manner. The report continues:

"It is a matter of duty and pleasure here to express admiration of the work of the United States Railway Administration in transporting selectives. No more difficult transportation problem could be conceived, involving as it did the simultaneous movement of small detachments in variant numbers from thousands of county seats and the concentration of their delivery at several hundred posts and stations. The arrangements for transporting and feeding these men were made by the railroads, and this work was so satisfactorily performed that less than a dozen complaints were received during the entire year. They have been called upon to handle as many as 50,000 selected men in one day; and to transport within a single month over 400,000 men for the selective service system alone. Their hearty co-operation at all times was one of the main assets of this office in the work of mobilization. Special attention is invited to their performance on November 11, 1918, the day on which the armistice was signed and hostilities ceased. Calls had issued and all arrangements had been made for some 250,000 men to be entrained during the five-day period beginning November 11. The United States Railroad Administration was advised by telephone at 10:25 a. m. on Monday, November 11, of the cancellation of these calls by order of the secretary of war. In 35 minutes they had notified all the railroads of the country; had stopped further entrainments; had reversed such contingents as were en route; and were restoring the men to the original points of entrainment. This achievement stands out as a marvel of efficiency, and is but an indication of the co-operation which they constantly tendered.

"The number of men called, to October 31, 1918, was

2,801,358. Of this number 45,882 did not travel over railroads under the control of the United States Railway Administration, due to the fact that they reported at mobilization camps within the immediate vicinity of their local boards. The remaining number, 2,755,476 men, were handled by the United States Railway Administration. The average number of miles per man traveled to a mobilization camp was 388; the entire mobilization, therefore, involved the equivalent of 1,069,124,688 miles of travel by one passenger.

"The relation of this mileage movement of selectives from local boards to camps, to the entire mileage for war department troop movements of all kinds, and to the total passenger mileage in the United States for the same period, is shown by the following table:

MOBILIZATION BY MILEAGE		Per cent of War Per cent Depart- ment of total mileage mileage	
Mobilization, by mileage	Number		
1. Total passenger mileage in United States, September 1, 1917, to November 1, 1918 (estimated).....	51,494,683,000	100.00	.....
2. For War Department troop movements of all kinds (estimated).....	4,440,000,000	8.62	100.00
3. For movements from boards to camps (estimated)	1,069,124,688	.....	24.08
4. For movements intercamp and from camps to seaboard (estimated).....	3,370,875,312	.....	75.92

"It thus appears that the movements required for mobilization under the selective draft represented about one-fourth of the entire troop movement for the war department."

Deficit as Compared with Standard Return in January

The railroads started the year 1919 with a failure to earn the standard return, according to preliminary figures. Returns of 193 roads to the Interstate Commerce Commission, or only two roads less than are included in the commission's monthly tables, earned a net operating income of \$18,841,000, whereas the standard return for January for the Class I roads alone was something over \$55,000,000. The same roads in January, 1918, had an operating deficit of \$4,006,000. The operating revenues were \$394,974,000 as compared with \$284,371,000 in January, 1918, and the expenses were \$359,579,000, as compared with \$270,719,000, and this figure includes only a very small amount of back pay, as most of the back pay for 1918 was cleaned up in the December accounts.

Wage Demands for 1919

Now that most of the back pay for 1918 has been taken into the accounts, the processes which are expected to result in a new series of retroactive payments for 1919 are still being continued. The January accounts included no back pay except in the case of a few roads, but the request of the train service brotherhoods for an upward revision of their wage scales and time and one-half for overtime is still pending, on a recommendation of the Board of Wages and Working Conditions which is before the director general for a decision. The award when issued is expected to be retroactive to January 1, and the shop employees have asked for a new increase to become effective as of the same date.

It is understood that the Railroad Administration is holding out against the demand for a penalty rate for overtime in train service, but the brotherhood executives have been in Washington for some time making vigorous efforts to have it granted, and the subject has been discussed at length at a conference of the regional directors and federal managers which began last week. Most of the regional directors left on Saturday, but the federal managers remained over this week, going over the matter in detail to study the effect of such a change and possible alternatives.

A letter addressed to the director general by B. M. Jewell, acting president of the railway employees' department of the American Federation of Labor, and the executives of the in-

dividual organizations, says that great dissatisfaction has been manifested by the machinists, blacksmiths, boilermakers, sheet metal workers, electricians and car men, regular and helper apprentices and helpers, "due to the present inadequate wage rates," as contained in the awards made in 1918, and they desire to present a request for further increase "to place them in a position to meet the ever-rising cost of living and maintain a more equal differential between classes of railroad employees and those engaged in a similar capacity in other industries." The letter states that these employees have been very insistent in their demands for some time, but the request has been withheld until they have become so persistent that it has been deemed advisable to comply with their wishes. The letter also urges upon the director general the necessity of arranging a conference with the representatives of the shop crafts for the purpose of arriving at a thorough understanding of the award to be issued covering this request, prior to the issuance of the general order.

"If this is not done," the letter says, "you can but expect a repetition of the situation as it has existed after the issuance of each wage order thus far. We are sure that if the recognized representatives of the employees are permitted to have such a meeting with you they will be in possession of the necessary information to enable them to advise their membership as to the full provisions of the award, thereby insuring you, also our people, against the very unpleasant expressions of protest made by wire, letter and through newspapers, none of which are for the best interests of the service. Matters of this kind under private control have been handled in a very orderly manner by us and can still be handled in the same way if we are but permitted to understand the exact provisions of the award, being allowed sufficient time to advise our people through regular channels of their recognized organizations the best course to pursue regardless of whether or not the award is considered satisfactory to them."

The new scale of rates requested provides for a minimum hourly rate of 85 cents per hour, as compared with the present minimum of 68 cents, for machinists, blacksmiths, sheet metal workers, electrical workers, car men and boilermakers, a minimum hourly rate of 60 cents an hour for helpers, and differentials above the minimum hourly rate for certain classes of employees. Machinists working on valve motion work, tool room work, rod work, heavy machine operators, layers out, air men and federal inspection men ask an excess of 6 cents an hour above the machinists' rate. Certain classes of boilermakers ask an excess of 6 cents above the boilermakers' rate. Blacksmiths employed as hammersmiths ask an excess of 25 cents above the blacksmiths' rate. Electricians employed as armature winders ask an excess of 25 cents above the rate for electrical workers.

The request provides that general foremen, foremen, assistant foremen, and leaders shall be paid on an hourly basis and receive overtime compensation for all services rendered in excess of eight hours per day, with a minimum hourly rate of \$1 for general foremen, 95 cents for foremen, and 90 cents for assistant foremen, gang foremen and leaders; provided that all rates in excess of these shall be continued and monthly rates now in effect shall be the basis for establishing the hourly rates, the monthly rates to be divided by 200 to obtain the hourly rate.

The request also provides that operators of electric, acetylene, thermit or other improved welding processes or machines shall receive an hourly rate of 91 cents, that all employees performing the recognized work of any craft who have had one year's experience or less shall receive 67 cents an hour, who have had one year or less than two years' experience shall receive 70 cents an hour, two years' and less than three years', 74 cents an hour, over three years' and less than four years', 79 cents an hour. This does not include regular and helper apprentices. It is provided that should any of the

above leave the service, employees with not less than four years' experience shall be assigned to their positions and paid the minimum rate. Regular and helper apprentices assigned in connection with the work of their respective crafts are to receive as a starting rate 35 cents per hour, with an increase of 2½ cents per hour for each six months up to and including the first three years, and an increase of 5 cents per hour for the first six months of the fourth year and 7½ cents per hour for the last six months of the fourth year.

Improvements to Be Financed by Companies

For the purpose of emphasizing the fact that capital expenditures for this year must be financed generally by the railroad companies, T. C. Powell, director of the Division of Capital Expenditures, has issued D. C. E. Circular No. 19, which is sent to regional directors, with copies to federal managers, as follows:

In conferring with corporation officers and securing from them a definite statement for or against contemplated additions and betterments chargeable to capital account, you, of course, understand that it is not our purpose, generally speaking, to make such improvements unless the company finances the project.

Before forwarding to this office, therefore, D. C. E. Forms which carry the approval of the corporation, and before permitting the federal (general) manager to start work on any project costing more than \$1,000 chargeable to capital expense, please be careful to develop the exact scope of said corporate approval.

The corporation officer may desire to express general approval of the project without committing himself as to finances and in that case such projects should be submitted separately, with the comments of the corporation officer and your recommendations.

There appear to be four other phases in this matter:

(1) Those improvements which are approved by the corporation, and which the corporation is prepared to finance on its own credit without calling upon the Railroad Administration in any way.

(2) Those items which the corporation approves, but not being able to finance on its own credit, is prepared to furnish security to the Division of Finance of the Railroad Administration, by means of which the director of finance will be able to assist in securing funds.

(3) Those projects which are approved by the corporation, but which cannot be financed by the corporation on its own credit in the open market, and for which the corporation is not prepared to furnish security to the director of finance, and for which, therefore, the corporation must call upon the Railroad Administration to furnish all the funds on the notes of the corporation without security.

(4) Disapproval by the corporation.

To simplify the handling, please state the exact obligations by endorsing upon D. C. E. Form 4 any one of the notes described below which fits the case:

(1) Work covered by this form is approved by (corporate name of railroad company), which also agrees to finance from funds other than those received from the Railroad Administration the charges to its capital account required to complete the work.

(2) Work covered by this form is approved by (corporate name of railroad company), which also agrees to finance the charges to its capital account required to complete the work, by furnishing to division of finance satisfactory collateral.

(3) Work covered by this form is approved by (corporate name of railroad company), but the corporation is not prepared to finance from its own funds or to furnish the collateral whereby it may assume the charges to its capital account required to carry out the work.

(4) Work covered by this form is not approved by (corporate name of railroad company).

Mr. Powell has also issued the following Supplement 4 to D. C. E. Circular No. 1:

Since the issuance of Supplement 3 to D. C. E. Circular No. 1, dated December 31, 1918, it has developed that large expenditures were made during the year 1918 in connection with improvements chargeable to capital account which were not authorized nor the expenditures reported on D. C. E. Form 5.

It is necessary that any such expenditures shall be reported accurately and that D. C. E. Form 5 shall reflect not only expenditures for work specifically authorized, but all expenditures properly chargeable to capital account.

Supplement 3 to D. C. E. Circular No. 1 is hereby rescinded and effective as of January 1, 1919, the following instructions should be observed:

I. Paragraph "Sixth" of D. C. E. Circular No. 1, dated March 27, 1918, relating to the preparation of D. C. E. Form 5, a monthly report of authorizations and expenditures, is revised so as to read hereafter as follows:

Sixth.—A monthly report, commencing with the month of January, 1919, should be made on D. C. E. Form 5 Revised.

This report should include all unexpended balances in connection with uncompleted work contracted for or commenced prior to January 1, 1919, and all work authorized or commenced after that date which involves a charge to capital account.

The report should divide the work into classes according to the classification outlined in D. C. E. Circular 2, and printed on D. C. E. Form 5 Revised.

In preparing this statement, the following rules should be observed:

(a) In columns 2 and 3 should be reported the unexpended balance in connection with work authorized or commenced prior to January 1, 1919; and so far as the amount chargeable to capital account is involved should agree with column 14 of the subrecapitulation "Uncompleted work" of the "carry-over." The figures reported in these columns must not be changed during the year 1919 without previous approval of this office.

(b) In columns 4 and 5 should be reported only the work specifically authorized during the year 1919 on D. C. E. Forms 2 or 4. No work except that reported on D. C. E. Form 2 should be included in these columns unless the approved D. C. E. Form 4 has been received.

(c) In column 6 should be reported the sum of columns 2 and 4, and in column 7 should be reported the sum of columns 3 and 5.

(d) In columns 8 and 9 should be reported all expenditures made during the month in connection with work chargeable to capital account whether specifically authorized or not.

(e) In columns 10 and 11 should be reported the cumulative expenditures made in connection with work chargeable to capital account whether the work has been specifically authorized or not.

(f) In column 12 should be reported only the aggregate of the unexpended balances in connection with work specifically authorized.

(g) In column 13 should be reported—

1. The aggregate of the expenditures made in excess of work specifically authorized.

2. Total expenditures made in connection with all work which has not been specifically authorized on D. C. E. Forms 2 or 4.

II. In preparing D. C. E. Form 5 Revised for January, 1919, it will be necessary to report the "unauthorized expenditures" made to December 31, 1918, as reported on special statement provided for in D. C. E. Circular 14, paragraph "Sixth." This should be done by reporting the amounts in columns 9 and 11, and the operating expenses in connection therewith in columns 8 and 10. Unless D. C. E. Forms 4 were approved for any of this work during

January, the entire amount should be also reported in column 13 (unauthorized expenditures) as provided for in paragraph (e).

III. I again wish to emphasize the necessity for the prompt rendition of this statement, and for the accuracy of its preparation. The statement should be mailed not later than the 25th of the succeeding month. In the event any federal manager finds it is impossible to mail the statement on the 25th day of the first succeeding month, he should telegraph the director Division of Capital Expenditures, to that effect, giving the reason therefor and the approximate date on which it will be sent.

Rental Charges for Dining Cars, Locomotive Cranes, Lidgerwood Unloaders, etc.

The director general has approved the following as rental charges to be applied between railroads for dining cars, locomotive cranes, Lidgerwood unloaders, etc., effective as of March 1:

	Rate per day
DINING CARS: Furnished (except provisions).....	\$40.00
LOCOMOTIVE CRANES:	
Five tons capacity or less.....	15.00
Over 5 tons capacity and less than 20 tons capacity.....	20.00
Over 20 tons capacity.....	25.00
WRECKING CRANES:	
Steam wrecking cranes, 75 tons capacity and less.....	40.00
Steam wrecking cranes, capacity more than 75 tons.....	55.00
LIDGERWOOD UNLOADERS:	
Without cable and plow.....	7.00
Including cable and plow.....	10.00
DITCHING MACHINE.....	10.50
PILE DRIVERS:	
Drop hammer.....	10.00
Steam driver.....	15.00
Self-propelled steam driver.....	22.50
STEAM SHOVELS:	
With dipper less than 2½ cubic yards capacity.....	15.00
With dipper 2½ cubic yards capacity or greater.....	20.00
OTHER WORK EQUIPMENT:	
Self-cleaning ballast cars.....	1.50
Equipment or tool cars.....	1.50
Wrecking or water cars.....	1.50
For loading, bunk, commissary, or camp cars.....	1.50
(Provided that in no case shall the rates for "Other Work Equipment" be less than the per diem rates.)	

NOTE.—When necessary to haul this equipment over road owning it for delivery to borrowing road, or intermediate carrier, the following rates to apply:

Cars enumerated under "Other Work Equipment".....3½c. per mile

Dining cars.....10c. per mile

Locomotives, Lidgerwood unloaders, pile drivers, steam shovels, unless otherwise provided by special arrangement. Tariff rates to apply.

Final Report of Exports Control Committee

The Exports Control Committee, established June 11, 1918, for war purposes to control the flow of export traffic has just made its final report, the committee having been disbanded March 1 at its own suggestion. The report, which was for the week ended February 28, shows that in the South Atlantic and Gulf districts the permit control on all bulk grain, both export and domestic, and all sacked grain for export destined to or via the Gulf port elevators has been removed. In the future, carriers will not require permits for grain moving to or via any of the Gulf ports. The embargo restrictions calling for permit system on iron and steel articles when destined to South America, Central America, Mexico, Cuba and the West Indies have also been withdrawn, so that the only movement subject to permit control will be on iron and steel articles moving overseas.

The movement of overseas traffic for the week ending February 25 shows that receipts have again exceeded the deliveries to the extent of 1,737 cars at North Atlantic ports. There are 10,823 cars of food for export on hand at North Atlantic ports, which is 1,183 cars more than last week.

The report shows that there were 28,000,000 bushels of grain at Buffalo afloat for the Food Administration and Wheat Export Company, in addition to the grain in elevators. Applications will shortly be presented covering a movement of approximately 6,000,000 bushels of grain a week via North Atlantic ports, divided according to conditions at the ports, an ample shipping program being available to promptly take care of grain on arrival.

As to Gulf ports, the stock of grain at New Orleans is 4,345,000 bushels, with only one ship in port and six overdue with total grain allocations of 936,000 bushels.

Passenger Traffic

Passenger traffic continues to show increases in various parts of the country, according to the latest weekly report of traffic conditions issued by the Railroad Administration, and to accommodate the travel the passenger service is gradually being restored to pre-war conditions in many places. Arrangements have been made to place several suburban club cars in service between New York and Plainfield, N. J. The New York Flyer between New York and Harrisburg, Pa., will shortly be re-established by the Philadelphia & Reading. Tri-weekly sleeping car service was established between Washington, D. C., and Hot Springs, Va., on March 3 by the Chesapeake & Ohio. Some additional passenger service has been put on by the Missouri Pacific. On March 1 all lines in the Central Western region, except the Atchison, Topeka & Santa Fe on its California Limited, resumed a la carte dining car service. A change in the special car tariff reducing the minimum requirement for use of a special car from 30 to 25 fares is to be made effective about March 15.

Maintenance Program for 1919

A maintenance of way and structures program for 1919 which will be sufficient to make the average upkeep for 1918 and 1919 equal to that of the three-year test period before federal control, is to be made up by the federal and general managers and submitted to the Railroad Administration at Washington for approval by April 15, according to instructions issued to regional directors by C. A. Morse, assistant director, division of operation, in charge of engineering and maintenance. With the instructions was sent a special form to be filled out with the average amount expended during the three-year period under each subdivision of the maintenance of way and structures accounts equated on the basis of the increased wages and material prices, together with similar information for 1918 to show whether the amount expended in 1918 was greater or less than during the test period after making an allowance for the higher wages and prices in 1918. The program for 1919 will then be made up by taking the average for the test period and adding or subtracting the difference between that average and the expenditures for 1918. Extraordinary expenses and expenditures on account of renewals rather than upkeep are to be separated. According to the Interstate Commerce Commission's figures for 1918 the expenditures for maintenance of way and structures in 1918 were \$654,000,000 as compared with \$446,000,000 in 1917, an increase of \$208,000,000. According to an estimate made by the Railroad Administration, the increase in wages in the maintenance of way and structures account was \$96,290,000, or 29.9 per cent, and the estimated pay roll excluding increases was \$321,791,000.

Increased Number of Employees Due to War Conditions

Walker D. Hines, director general of railroads, has authorized a reply to a statement by Howard Elliott, president of the Northern Pacific, in a recent address, that the Pennsylvania Railroad System had nearly 40,000, or about 16 2/3 per cent more employees on December 31, 1918, under federal control than on December 31, 1917, under private control. Mr. Hines' statement incidentally makes public the fact that the total number of railroad employees in January of this year, was 8.2 per cent greater than in December, 1917.

"For this comparison," the statement says, "Mr. Elliott selects a month of private control characterized by extraordinarily bad weather when maintenance of way and other outside work was at a standstill on the Pennsylvania System and when blockading of traffic largely diminished car repairs,

and selects a month under federal control in which unusually clear weather prevailed, when business was moving freely and when it was possible and advisable to go forward with maintenance of way and also with car repairs. Of itself the wide disparity between these two months produces an unfair comparison and accounts for a substantial part of the increased number of employees upon which Mr. Elliott dwells. But in addition there are two fundamental mistakes of treatment which vitiate Mr. Elliott's argument and emphasize its unfairness to the Railroad Administration.

"Mr. Elliott first makes the mistake of treating the Pennsylvania Railroad as typical of the entire country. This is not the case. Taking the railroads under federal control as a whole, the number of employees in January, 1919, as compared with December, 1917, shows an increase of only 8.2 per cent, much less than the increase on the Pennsylvania system. The increase in the number of employees under government control as compared with the number of employees when the roads were under private management is almost negligible except in the regions of intense war activity, and the most striking of these was the Allegheny region (which includes the Pennsylvania Railroad), where the essential coal and the steel were produced, and where many shipbuilding yards and other war industries were located.

"Mr. Elliott makes the further mistake of charging up as a necessary characteristic of federal control under peace conditions temporary features which were really due to war conditions. During the year 1918 the United States Railroad Administration organized the railroads of the country on a war basis to do the railroad part of the work of defeating the Germans. There was an extraordinary 'turnover' of railroad employees, due to the constant loss of employees to the military and naval service, to the service of operating the American railways in France and to other lines of work which were paying higher wages. This necessitated the employment of many untrained and inexperienced men and in the nature of things involved the necessity for having more men to do the same amount of work. Again, the transportation service under war conditions was in many respects much more burdensome than is indicated by the mere number of ton miles hauled. A vast number of special trains, both passenger and freight had to be run and an unusual empty car mileage had to be made.

"Again, the Railroad Administration had to keep organized up to its maximum capacity so as to be ready to put forth a constantly increasing effort and be ever ready, even if there might be an exceedingly severe winter, to do everything that ought to be done to carry on the work on an increasingly extensive scale and under an increasingly heavy strain. Thus the Railroad Administration had to be in a state of preparedness for the maximum war requirements in spite of the difficulties in securing trained employees; it, therefore, had to put forth every effort to have its forces sufficient as winter came on to meet any emergency.

"The armistice came so unexpectedly that it was impossible by the end of the year to readjust the organization so as to get rid of these war conditions and get down again to a peace basis. The problem was taken up promptly and has ever since been pursued with vigor in order to get back to a peace basis, but several months will still be required for that purpose. To seize on the war conditions which still existed in December, 1918, as an argument against the efficiency of the Railroad Administration even after readjustment to peace conditions is calculated to confuse, and is most unfair to the railroad officials of all ranks who have been trying so loyally and intelligently to bring the railroad conditions back to a normal peace basis.

"Nothing else in public or private control was conducted on a normal basis during the intense period of the great war. In all other sorts of enterprise it is assumed on all sides as

a matter of course that neither the war results nor the results of the readjustment period are to be taken as typical of peace results after readjustment can be accomplished. Yet Mr. Elliott singles out the Railroad Administration and treats it as an enterprise whose results under peace conditions and after an opportunity for readjustment can fairly be tested on the basis of what had to be done for the public safety under the stress and difficulty of the greatest war in history.

"The very facts that Mr. Elliott cites strongly emphasize that federal control has important opportunities under peace conditions to improve the situation through eliminating the extra costs which were due to war necessities. We are endeavoring to take advantage of all these opportunities and to bring about a readjustment in the public interest, having at the same time due consideration of the necessities of the general industrial situation. I welcome and am aided by understanding and discriminating criticisms of the situation, but I deprecate criticism which seeks to fasten on the Railroad Administration as a permanent characteristic of its policies and methods after readjustment to peace conditions, the things which were not due to federal control but which were due to the necessities of the war."

Back Pay to Be Reported

Several requests have been made upon the regional directors and federal auditors for information respecting the amount of back pay charged to operating expenses for the year 1918 arising out of the application of the provisions of General Order No. 27 or supplements thereto. Federal auditors were required to estimate a good portion of the data reported on this subject. The estimates, in many cases, were not comparable with the actuals subsequently determined, so that the results received were far from satisfactory. In order that the accounting division may properly answer the many inquiries made upon it respecting the subject of back pay, Accounting Circular No. 77 directs that federal auditors shall prepare a report showing the amount of back pay included in the operating expenses of each month of the year 1918 that is applicable to other months of that year, the amount in each month applicable to each other month to be shown in the month or months in which it is properly includable. After showing the full amount of back pay included in each month and the proper apportionment of that amount between the months to which it is applicable, a classification of the total amount assigned to each month is to be shown among the general accounts of operating expenses affected thereby.

If it is not reasonably possible to accurately assign the

amount of back pay to the month or months to which it is applicable, such amount shall be apportioned among the appropriate months on some reasonable basis of estimate, and a note shall be made on the report that the distribution was made on an estimated basis.

Investigation of Wm. H. Wood Firebox

The William H. Wood corrugated locomotive firebox is the subject of a report recently made to Frank McManamy, assistant director, Division of Operation, United States Railroad Administration, by a sub-committee of the Committee on Standards and published by the Railroad Administration. The committee made a thorough investigation of the service records of the five fireboxes of this construction actually applied to locomotives and examined the fireboxes, now all replaced by others of standard design. Its conclusions are "that the Railroad Administration should not apply any of these fireboxes for the following reasons:

"That the economy claims have not been proven.

"That the life to be expected, based on the best performances is very much less than that of the ordinary form of box.

"That the time out of service will be very much greater than with the ordinary box."

The committee does not believe that there is sufficient advantage in this form of construction to compensate for the added difficulty and expense involved in its repair and renewal.

Board of Referees to Determine Compensation

In accordance with provisions of the federal control act the Interstate Commerce Commission has appointed Commissioner Aitchison, M. O. Lorenz, statistician, and A. G. Hagerty, attorney examiner, as a board of referees for the purposes of determining the just compensation of the Chicago, Terre Haute & Southeastern and the San Antonio, Uvalde & Gulf, which have petitioned for the appointment of referees, because their compensation has not been adjusted as provided in Section 1 of the act.

Trackmen's and Shopmen's Working Conditions

Two representatives of each regional director and an equal number of representatives of the Brotherhood of Maintenance of Way Employees and Shop Men began a meeting at Washington on March 10 for the purpose of recommending to the Board of Wages and Working Conditions a set of uniform rules governing working conditions. A tentative draft was submitted to the board by the brotherhood some time ago.



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One of the Railway Receiving Yards of the United States Railway Engineers in France

Orders of Regional Directors

LOCOMOTIVE DICTIONARY and Master Car Builders' Dictionary. A. H. Smith, regional director, Eastern region, by file 500-88A583, advises that the director general has authorized a continuance by the railroads of past practice with respect to the furnishing of the Locomotive Dictionary and the Master Car Builders' Dictionary to their mechanical and purchasing officers. The Southern regional director, file 1701-2-6, issues the same notice.

International Railway Fuel Association.—The regional director, Eastern region, by file, 1301-28A584, advises that the director of the division of operation desires a large attendance of railroad fuel men at the International Railway Fuel Association's annual meeting, at Hotel Sherman, Chicago, May 19, 20, 21 and 22. The convention will discuss the conservation of railroad fuel coal, and railroad fuel men ought to attend regardless of whether or not they hold membership in the association. Federal managers are asked to see that their lines are properly represented, more particularly by men connected with the transportation and mechanical departments; such delegates to go prepared, as far as possible, to take an active part in the work of the convention. The Southern regional director, file 520-6, and the Northwestern director make the same request.

Interchange of Freight on Sundays.—A. H. Smith, regional director, Eastern region, by file 1200-2-29A576, calls for advice as to how far it has been possible to discontinue the interchange of "dead" freight on Sundays, and as to whether any further work of this class can be eliminated.

Automatic Train Control Devices.—The regional director, Eastern region, by circular 500-87A571 calls for a statement of all automatic train control devices now in use or installed; and instructs federal managers to see that no new installations are authorized until approved by the Automatic Train Control Committee.

Unsanitary Condition of Toilets.—The regional director, Eastern region, by circular 1600-111A572, advises federal managers that complaints are being received concerning unsanitary toilets in coaches and in passenger stations. This matter must be given attention so as to reduce to the lowest possible point all just grounds for reasonable criticism. The Northwestern region, by file 100-1-4, and the Southwestern, by Circular 183, receive the same notice.

Monthly Report of Fire Protection.—The regional director, Eastern region, in circular 1801-97A570, says that this report is to include only the activities of the inspectors attached to the fire protection and inspection department; it must not include things done by shopmen and other employees.

Issuance of Passes to Non-Government Roads.—The Southern regional director lays down the rule concerning the issuance of trip transportation to independently operated railroads: Trip transportation may be furnished to independently operated railroads on the basis of that furnished in 1917; in addition, trip transportation is furnished to Washington when necessary on account of railroad business with the United States Railroad Administration or other governmental department (not to include passes for families). These Washington passes will be issued by the director of the division of operation, but it will be proper for the railroads to continue past practice with reference to furnishing other trip transportation to such lines. The Eastern regional director, by file 2100-26A578, issues a similar notice.

Failures of Mechanical Stokers.—The Southern regional director calls the attention of federal managers to numerous delays and failures of locomotives equipped with mechanical stokers, due to iron bolts, and other metallic substances, as well as rock and other foreign material, left in bottoms of coal cars. Instructions should be issued through purchasing department and fuel inspection forces to insure that empty

cars shall be thoroughly cleaned before loading, and every effort must be made to prevent any metal substance being loaded with coal. Supervisors and foremen in charge of coaling stations must be instructed that special effort be made to eliminate foreign matter, destructive to stoker equipment, when coal is loaded on locomotives. The Eastern regional director, by file 500-1-54A585 issues similar orders, and Order 170, Southwestern region, covers the same subject.

Wages Due Operators from Western Union.—The Eastern regional director, by file 1200-4-56A-582, calls attention to a complaint that on one railroad the Western Union Telegraph Company has withheld payment of bills for back pay due joint employees, linemen and others. The director of the Division of Operation advises that the federal managers should take a positive stand that the telegraph company be expected to pay its proportion of the increased wages granted by the Railroad Administration; that the contract between the telegraph company and the railroad does not require any previous agreement as to increases.

Movement of Army Medical Corps.—Circular 188 of the Southwestern regional director requires cars belonging to the United States army medical service to be returned promptly to Jersey City, N. J., and Newport News, Va.

Fires Resulting from Derailments.—The Southwestern regional director in Circular 189 calls attention to fires resulting from derailment of trains containing gasoline or other highly inflammable commodities. He cites the case of a freight train in which three freight cars were destroyed at an estimated loss of \$12,500, and the principal cause was violation of rules.

War Saving Stamp Notices.—Circular 112, Supplement 3, of the Southwestern regional director gives authority for the posting of War Saving Stamp notices in stations, shops, etc.

Report of Classified Locomotive Repairs.—The Southwestern regional director in Order 172 announces the adoption of Form MD-34 for uniform reports of locomotives receiving classification repairs. This report is mailed monthly to Frank McManamy, Washington, and a copy is sent to the regional director.

Industry Tracks.—Order 185, cancelling Circular 102, Supplement 1, to Circular 102, Circular 119 and Circular 146 of the Southwestern regional director, abstracts all letters of interpretation of General Order 15 issued on March 26, 1918, and Supplement 1 thereto covering the practice to be followed in the construction, maintenance and operation of industry tracks.

Freight Cars; Cost Limit of Repairs.—Supplement 1 to Circular 23 of the Northwestern regional director, in complying with paragraph 8 of Division of Operation Circular 20, includes a model for the report of inspection and estimated cost of repairs to freight cars recommended for retirement or application of betterments and states that after cars are inspected and reported on this form the federal manager of the using road will transmit the original and two copies, with his recommendation, to the federal manager of, the owning road, who will transmit one copy to the corporation, securing its approval; retain one copy and return the original to the federal manager of the using road, notifying him of the action taken.

Second-Hand Rails.—The regional director, Eastern region, by file 500-8-8A562, prescribes, for convenience in accounting, prices for different qualities of second-hand rail which may be carried in stock, to avoid the difficulty of following the fluctuations in market prices. Except where there is some very serious objection to the contrary, the new rail is to be charged at the invoice price at which purchased, and stock is to be calculated at the average price paid for such rail on hand or being purchased; and second-hand rail, for stock purposes is to be valued as follows: Relayer, \$28; Sidings and Yard, \$25; Scrap, \$14. When material of this kind is to be sold, the sale is to be made at the

highest price obtainable; and periodically, say semi-annually, the Auditing Department can readjust the operating accounts to reconcile the actual situation with the monthly accruals.

Sheds for Protection of Car Repairers.—The regional director, Eastern region, by Circular No. 1800-133A567 calls for information concerning laws requiring the construction of sheds for this purpose. The director general has been asked by the brotherhood to adopt a policy and is anxious to pass upon the matter with as little delay as possible. Federal directors are asked to advise what States now have car shed laws, and their provisions; what railroads have adopted the policy generally of providing car sheds at the more important car repair points, and to recommend what the practice should be.

Army Medical Cars.—The regional director, Eastern region, by Circular No. 2000-38-86A563 calls attention to the importance of promptness in returning to their headquarters the cars belonging to the U. S. Army, Medical Service, when the wounded men and invalids have been removed therefrom. The personnel of the Medical Corps is attached to each car, and a necessity exists for moving the Army Medical trains upon passenger schedule back to the point of origin as soon as relieved at destination. These cars have their headquarters at Jersey City, N. J. (Pennsylvania Railroad), and Newport News, Va. (C. & O.)

Development of Coal Mines.—Order 173 of the Southwestern regional director cancels Order 134 relative to applications for coal mine tracks. Hereafter such applications should be handled the same as applications for industrial tracks.

Freight Car Distribution.—Supplement 8 to Circular 70 of the Northwestern regional director directs that cars at a junction point with the home road will only be delivered to owner as approved by the regional director. Approval will be given where such delivery is not contrary to the current trend of empty movement. Care must be exercised to avoid diverting the movement of empty cars from proper channels. Ordinarily, where there is a definite movement of traffic through certain gateways the empty return movement should be made via the same gateways. By Notice No. 6 the Northwestern regional director calls for better movement of *automobile cars* to eastern territory. Shortage of cars for loading, particularly in Michigan, is growing acute. All such cars east of the Missouri river should be moved east at once, empty if necessary; but so far as possible, some should be loaded for destinations west and north of a line drawn through Detroit, Cleveland and Indianapolis. Automobile cars that are in storage mixed with ordinary box cars and not readily accessible will be switched out only when convenient and economical. A canvass, however, must be made of stored cars with a view of getting such cars in service with the least possible delay consistent with economical operation. Automobile cars in bad order should be given preference over ordinary box cars in making repairs. On account of being less serviceable, 36-ft. cars will not be moved empty on this order; but should be supplied for eastbound loading. Orders will not be accepted from other roads for empty automobile cars, with the exception of cars for loading by short line roads, or in switching service, where the loading road has no car supply. These instructions will not interfere with giving full distribution of available cars on local orders for automobile loading.

Stored Equipment.—Circular 184, of the Southwestern regional director is similar to 557-1-27 of the Northwestern regional director, abstract of which was published in the *Railway Age* of March 7 (page 555).

Taxation of Material.—A. H. Smith, regional director, Eastern region, by circular 2002-4A252, quoting the general counsel of the Division of Law advises that government property not in use by a railroad is not taxable locally. The general counsel says:

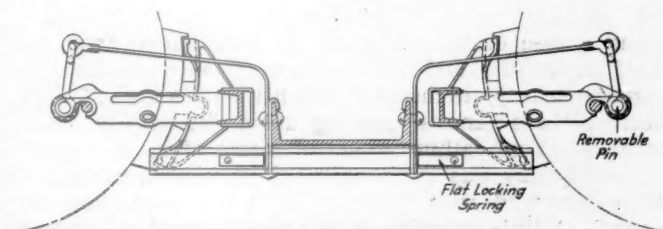
"Material and supplies of roads under Federal control on hand December 31, 1917, were taken over by the United States Railroad Administration and payment for the same made by the Government through credit entry on the books in favor of the corporation. In my opinion, such material and supplies became the property of the government; likewise material and supplies acquired since that date have been paid for by the government, thereby being the property of the United States government and not subject to taxation any more than army camp or post office supplies. Where material and supplies have been allocated to any particular road and used for maintenance, same became a part of the physical property of that particular road, and immediately subject to tax as such. Or, where material and supplies have been allocated to a particular road for use in connection with extensions or improvements, and charged to the corporation making such extensions or improvements, same became a part of the physical property of the road and subject to tax as such. Manifestly, it would be unfair for a state or community to assess taxes against a particular road for material and supplies, the property of the government, temporarily located at such point but perhaps designed by the Administration to be sent to some other state to be used by the government, in its operation of the railroads on an entirely different road at a distant point.

"It is impossible for me to determine in each specific instance the status of ownership of material and supplies, but there is no reason why this cannot be done in every instance by the proper officers of the road and the question of taxation handled accordingly."

Exchange of Passes with Steamships.—The Southern regional director, file 1557-53-6, directs that past practice regarding the exchange of trip transportation with independently operated steamship companies be continued.

Atlas Safety Guard and Third Point Support

FOR SOME TIME PAST the American Steel Foundries, Chicago, has been manufacturing a safety device for brake beams known as the Atlas safety guard. This consists of a bar of I-section fastened beneath the spring plank in such a position as it will support the brake beam in case the brake hanger should fail or the pins fall out. A further improvement has been made in this device by providing an additional support for the brake beam to insure even brake shoe wear. This is accomplished by extending arms up-



Atlas Safety Guard and Third Point Support

ward and outward from the safety bar support on the spring plank and fastening the brake beams to these arms by short links. In cases where one safety bar is used on each truck, these links are attached to the end of the brake beam strut; when two safety bars are applied the links are fastened to the tension member. The safety bars, as in the previous design, are held in place by flat springs and can readily be slid through the supports under the spring plank when it is desired to remove the brake beam. The arm and links being above the beam do not interfere with it in any way.

Decreasing the "Man Milage"

By O. E. Fisher

Comptroller, Kettle Valley Railway

THE STRESS OF THE TIMES has awakened us to a realization that economies which we never thought of in pre-war times are now possible. We have increased the car load and the train load, we have substituted cheaper and different materials that seem to answer the purpose as well as the more expensive kinds used in the past; we have decreased the train mileage, but what about decreasing the man mileage? Are we sufficiently interested in increasing the "efficiency lading" of officers and employees?

Railway operation is essentially different from other commercial operations whose volume of business handled may be fully as large. It is necessary to maintain strict discipline and perhaps handle many things in a more exacting manner than would be required in most commercial enterprises, but in our ardor have we not sometimes sacrificed efficiency instead of adding to it? Look at a few instances coming under actual observation on different railways.

A young freight conductor, just promoted, in figuring a close meet delayed a comparatively unimportant passenger train five minutes—a loss that was made up within the next fifty miles—and by so doing saved thirty minutes' time for the slow freight he was handling. The letter he received the next morning fairly scorched the paper it was written on, with its burning invectives; and after two or three succeeding occurrences of a similar nature he quite naturally fell into the habit of losing an hour at meets, if necessary, rather than take any chance of getting similar criticisms.

How frequently we see an operating officer glance over a morning report and say to a clerk, "Run down those delays and let me have the result." Forthwith a series of letters of the following tenor go out: "Let me have at once the cause of the disgraceful delay at Pumpkin Centre yesterday. What do you mean by such work as this?" Or, "I want to know at once what was the reason for an hour and ten minutes' delay at Hoop Pole Junction yesterday; see that it doesn't happen again." In many cases there is a perfectly plausible reason for the delay. Why not say, "I notice you were delayed thirty minutes yesterday at Pumpkin Centre; what was the reason, please; and how could it have been avoided?" This, quite likely, would bring out some constructive information and the criticism could then have been applied if it were required.

The phrase, "Please let me have your explanation," is much overworked. In many cases, there is no explanation other than an admission of the fault. A common style of letter to agents reads, "Please explain why you failed to unload a case of canned goods for your station from car 36245 on the 7th," and the reply runs, "I have impressed on Warehouseman Jones that this must not happen again." Yet, Jones perhaps knows nothing about the affair. Why not write, "Your failure to unload a case of canned goods, etc., last Friday was the occasion of some inconvenience to our patrons and may result in a claim. Look into the matter." A little softening of this kind is worth a hundred times its cost.

On another road an officer, with several officers reporting to him, required that every detail should be submitted to him for personal approval. This killed all initiative in the subordinate officers, giving them first-class training for office boys, instead of railway officers. This was carried to the point that a section crew of several men was delayed two hours waiting for this "personal approval" to get seventy-five cents' worth of powder from the store to clear a rock from the track that was in danger of delaying an approaching passenger train. A lineman was delayed an

hour getting "personal approval" to his requisition for gasoline before getting out to repair a break in the telegraph line, when the approval of his immediate superior could have been secured in a few minutes.

On a certain railway, where, following the usual practice, it is necessary to secure a formal authority before doing any work charged to the cost of the road, a superintendent, who had been having considerable trouble with a water tank and had expended a considerable sum for maintenance, was in danger of losing the water supply and delaying important trains; and he hit upon a plan of ending the trouble for all time by an expenditure of \$16.50, which he properly charged to additions and betterments. He was severely censured for doing this work in advance of a proper authority and, being of a sensitive nature, this letter occupied his mind for several days to the exclusion of other work. It is because of instances like this that we still find cases of an officer having saved (?) a substantial amount by some subterfuge of passing a charge on to another department (and probably increasing the amount substantially in so doing).

One of the most vital questions in railway economics is the relations of the employees to the company; almost all branches of labor are becoming strongly organized, and in many instances their demands are quite unreasonable. In order to secure coal or other needed material we have to pay the market price and, once we purchase it, we try to conserve it and make it go as far as possible; surely we ought to give the conservation of man power no less attention. Some of the unreasonable demands of labor organizations take root in the defects of our methods. I could name two general offices, each employing a number of clerks. In the one, pay and advancement are governed purely by ability; the men start on a minimum basis, and if a clerk develops ability along special lines and handles his work better than ordinary, he will in due course find an increase in his pay check—perhaps the check itself being the first advice of the increase. There is nothing but team work in that office and the relative unit of cost of work turned out is very much lower than the average; and everybody is satisfied. It is not an infrequent occurrence to see three or four clerks working a half hour after quitting time because they are interested in finishing a particular piece of work. In the other office, the head of which is an officer drawing a salary of several thousand dollars a year, there is a fixed rate of pay for each desk, which can only be changed by an extensive process of approvals and super-approvals. At six o'clock, quitting time, an observer would think that a fire alarm had been sounded, making it necessary to get out of the building quickly; and at thirty seconds past six the room is empty. The head of this office said that he wished it were possible to dispense with ten men and take half the money and divide it among those remaining; by so doing, he felt sure that 20 per cent of the cost of running the office could be saved.

I can hear a chorus to the effect that this would not be uniform; it would break down our system, and so forth. But, granted this were the case, would not the system improve with a little breaking, or at least bending? As for uniformity, not many men are uniform.

If a man is really capable, the only way that capability can be developed is by giving him increased authority; holding him to a circumscribed path tends to petrify him. A closer understanding between officers and the men in the ranks (where we all came from) will, without doubt, result in an improvement in our man mileage.

The shops of the Altoona Northern, at Altoona, Pa., were destroyed by fire on the morning of March 5; the estimated loss, including damage to one locomotive and two cars, was \$75,000.

General News Department

The Southern Pacific reports that it has carried 46,346,228 revenue passengers during the past year without the loss of a single life in a train accident, and in the last ten years has transported 380,837,002 revenue passengers 14,480,042,394 revenue passenger miles with safety average such that a passenger may travel the equivalent of 579,000 times around the world without loss of life in a train accident.

The East Bay Terminal is now the busiest railroad center on the Pacific Coast. Because of the shipbuilding activities at Vallejo, Cal., and Bay Point, and the joint use of the Oakland Pier by the Southern Pacific, the Western Pacific and the Atchison, Topeka & Santa Fe, there has been a great increase in traffic. Six passenger trains, with 72 cars, leave Oakland Pier within a 30-minute period in the morning and at night 11 trains, with 96 cars, arrive within one hour. There are three workmen's trains, not shown on the time table, that carry over 2,000 men night and morning between Oakland and Bay Point, and 1,400 men between Oakland and the Mare Island navy yard.

The conference of governors and mayors held in Washington last week adopted resolutions recommending that the railroads be retained by the government for 21 months after the proclamation of peace and that they be used during that time, so far as possible, to furnish "buffer" employment. "The government should not only provide for transportation necessities of property, but it should use the railroads as the means of helping private industry." The resolutions also recommended that the Railroad Administration immediately reduce the freight rates on all building material, especially road building material, and the Railroad Administration has announced that some reductions are contemplated.

The strike of boatmen and longshoremen at New York City was settled, so far as the railroad boats are concerned, on March 8, the Railroad Administration making large concessions to the strikers; but the non-railroad interests held out, and a number of important steamships, ready to sail to European ports, were delayed several days by their inability to get coal. Some of the liners proceeded with a partial supply, expecting to take coal at Halifax. On Wednesday of this week the Interborough Rapid Transit Company, using about 2,000 tons of coal daily, had on hand only four days' supply. Officers of the road appealed to the federal government at Washington for relief.

A. R. E. A.

Because of the pressing nature of the problems imposed upon him by the failure of Congress to pass the railroad appropriation bill, Walker D. Hines, director general of railroads, has felt obliged to recall his acceptance of the invitation to speak at the annual dinner of the American Railway Engineering Association at Chicago next week.

Senator Atlee Pomeroy of Ohio, member of the Senate Committee on Interstate Commerce who has taken active part in the recent hearings on the railroad question, has accepted an invitation to speak at the dinner of the engineering convention next Wednesday.

The Association of Railway Executives

The committee having in charge the presentation of this association's recommendations to Congress, consisting of Julius Kruttschnitt, Daniel Willard, Samuel Rea, Howard Elliott, Alfred P. Thom, and Thomas DeWitt Cuyler, has been enlarged by the addition of Judge Robert S. Lovett, president of the Union Pacific. The standing committee was

also enlarged by the addition of Carl R. Gray, president of the Western Maryland.

The Association of Railway Executives took under its general direction the Bureau of Railway Economics, the Association of Corporate Accounting Officers, and the Association of Railway Corporate Engineers.

Slack Work in Shops

In the large repair shops of the New York, New Haven & Hartford, the working time has been reduced to forty hours a week. About 4,000 persons are affected. The Pennsylvania has reduced the working time at many shops. The Nashville, Chattanooga & St. Louis has made a reduction of ten per cent in the forces of its large shops.

Railroad Library Sold

The library, consisting of 450 volumes containing early railroad history of England, America, and other countries, which was noticed in the *Railway Age* of February 28, page 514, as about to be sold in New York City, was disposed of, in a single lot, on the first day of the sale, to George D. Smith, of New York City, dealer in rare books, for \$5,500. The books are now at Mr. Smith's store, No. 8 East Forty-fifth street.

Officers to Attend Engineering Convention

W. T. Tyler, director of the Division of Operation, has written to the regional directors regarding the twentieth annual convention of the American Railway Engineering Association to be held in Chicago next week, saying he will be glad to have officers and employees who can be spared from their duties attend the convention, take part in the discussion and see the exhibits. B. L. Winchell, regional director for the Southern region, has written to federal and general managers a similar letter saying: "These meetings always develop matters of interest and value. In view of the necessity at this time of utilizing in the most efficient manner both materials and labor, it is expected that this coming meeting will bring up matters of more than ordinary importance."

"Railway Supply Men's Night"

A unique program has been arranged by the New York Railroad Club for its meeting at the Engineering Society's building in New York at eight o'clock on Friday evening, March 21. The club, like other railway clubs, includes in its membership a large number of railway supply men and it was felt by the subjects committee that it would be quite fitting to set aside one meeting which would be entirely devoted to a consideration of subjects of prime interest to the railway supply men but of hardly less interest to the railroad men because of the intimate relationship which must necessarily exist between the two parties. With this in mind, the following program has been arranged:

(1) The practical value and importance to the railways of the service departments maintained by railway supply companies will be discussed by A. L. Humphrey, vice-president of the Westinghouse Air Brake Company.

(2) The great contribution, in the direction of increasing the efficiency and capacity of railway operation, made by the engineering departments of the railway supply companies will be discussed by William E. Woodard, vice-president of the Lima Locomotive Works, Inc.

(3) The desirability of taking some steps looking toward insuring a more uniform rate of production of railway supplies will be considered by Dr. W. F. M. Goss, president of the Railway Car Manufacturers' Association.

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF DECEMBER, 1918

Name of road.	Average mileage operated during period.	Operating revenues			Operating expenses			Net from railway operation.	Railway tax accruals.	Operating income (or loss).	Increase (or decr.) comp. with last year.
		Freight.	Passenger.	Total.	Way and structures.	Maintenance of equipment.	Traffic.				
Bingham & Garfield	36	\$248,507	\$4,780	\$253,287	\$34,669	\$63,349	\$1,665	\$63.46	\$4,265	\$91,020	-\$73,755
Pittsburgh, Shawmut & Northern	204	80,787	6,490	87,277	20,105	42,608	41,751	20.39	1,841	22,277	15,663
Louisiana Railway & Navigation Co.	356	201,550	57,881	259,431	48,330	160,326	3,482	97.00	16,383	8,169	90,078
Houston & Texas Central	887	539,465	210,367	749,832	143,892	62,999	3,464	63.56	15,656	275,980	176,260
Bingham & Garfield	36	\$3,308,158	\$48,536	\$3,356,694	\$475,406	\$570,836	\$16,323	53.73	\$114,101	\$1,482,554	-\$426,808
Pittsburgh, Shawmut & Northern	204	1,115,743	64,158	1,179,901	333,852	636,690	14,987	140.29	21,795	511,845	292,216
Louisiana Railway & Navigation Co.	356	2,170,752	730,694	2,901,446	500,253	518,073	52,633	84.01	171,920	319,920	231,186
Houston & Texas Central	928	6,189,187	2,212,798	8,401,985	1,203,144	1,500,932	109,922	70.74	406,118	2,236,113	606,146
Alabama & Vicksburg	141	\$151,022	\$73,991	\$225,013	\$28,341	\$62,818	\$110,099	87.91	\$9,406	\$19,743	-\$3,796
Alabama Great Southern	312	593,322	171,095	764,417	53,349	171,266	10,834	77.25	24,561	160,370	73,399
Ann Arbor	301	312,956	50,148	363,104	83,542	70,223	15,319	77.25	13,100	42,634	54,823
Arizona Eastern	377	289,966	51,794	341,760	85,006	52,743	1,201	66.70	16,282	107,144	32,301
Atchafalaya, Topeka & Santa Fe	8,635	9,143,307	3,303,478	12,446,785	1,804,168	3,291,239	128,568	82.41	550,683	1,738,263	339,258
Atlanta & West Point	93	119,712	80,857	200,569	26,518	44,154	89,813	76.53	8,500	43,557	3,912
Atlanta, Birmingham & Atlantic	640	273,694	78,737	352,431	111,069	147,358	5,544	133.77	16,000	145,021	144,380
Atlantic City	177	159,657	103,116	262,773	43,358	29,609	90	83.36	12,000	37,170	86,623
Atlantic Coast Line	4,839	4,023,437	1,494,885	5,518,322	775,685	1,070,811	53,559	74.13	200,000	1,322,065	218,072
Baltimore & Ohio	5,145	9,543,081	2,700,554	12,243,635	1,514,886	7,055,035	425,873	108.79	411,340	1,587,284	1,280,543
Baltimore & Ohio Chicago Terminal	91	60,057	28,151	88,208	35,006	52,377	908	199.56	31,876	159,004	23,574
Baltimore, Chesapeake & Atlantic	87	375,502	73,735	449,237	68,977	44,433	986	99.84	3,160	3,025	45,525
Bangor & Aroostook	632	375,502	73,735	449,237	68,977	44,433	986	88.69	21,000	32,111	45,492
Beaumont & Sour Lake	118	97,016	20,380	117,396	121,862	92,972	4,632	82.41	2,700	18,744	28,793
Belt Ry. Co. of Chicago	31	570,123	32,950	603,073	256,233	40,221	383	112.95	16,442	49,628	52,689
Bessemer & Lake Erie	217	136,640	3,187	139,827	46,281	41,507	9,278	106.43	14,500	57,239	151,549
Birmingham & Gulf	36	136,640	3,187	139,827	46,281	41,507	9,278	87.48	9,565	8,721	108,363
Birmingham Southern	2	46,225	56,904	103,129	3,335	3,964	795	57.66	24,091	21,410	18,291
Boston & Maine	2,258	3,231,414	1,565,962	4,797,376	673,519	1,142,878	27,522	99.63	172,386	152,771	506,711
Buffalo, Rochester & Pittsburgh	296	180,603	7,411	188,014	45,595	83,909	69,186	103.79	3,250	18,792	48,636
Buffalo, Rochester & Pittsburgh	590	1,240,706	120,004	1,360,710	197,007	526,221	17,813	108.06	27,000	80,101	52,678
Canadian Pacific Lines in Maine	233	256,521	40,960	297,481	39,905	248,173	3,722	117.21	11,000	64,396	3,138
Carolina, Clinchfield & Ohio	282	445,774	29,523	475,297	83,112	114,367	4,160	76.61	16,300	97,791	21,943
Central of Georgia	1,918	955,173	519,225	1,474,398	1,658,806	395,004	28,402	95.75	66,750	3,264	349,700
Central of New Jersey	684	2,716,288	578,631	3,294,919	378,040	866,204	16,904	82.65	157,696	488,977	682,638
Central New England	401	373,664	34,273	407,937	87,102	130,592	1,509	102.74	16,000	30,214	58,638
Central Vermont	411	373,664	34,273	407,937	87,102	130,592	1,509	117.41	17,406	92,653	31,562
Chesapeake & Ohio Lines	2,484	4,467,104	1,220,636	5,687,740	963,778	1,358,148	39,802	81.96	1,087,740	915,447	950,998
Chicago & Alton	1,050	1,464,191	461,660	1,925,851	278,669	593,869	20,621	91.44	55,500	118,380	334,775
Chicago & Eastern Illinois	1,131	1,567,597	395,783	1,963,380	311,719	735,286	19,464	99.36	79,592	66,649	338,216
Chicago & Erie	269	709,791	73,569	783,360	84,909	154,398	5,510	87.49	25,752	77,226	565,929
Chicago & North Western	8,090	6,494,743	2,589,884	9,084,627	1,333,124	2,292,616	70,750	94.31	475,000	80,509	1,175,821
Chicago, Burlington & Quincy	9,372	8,681,844	2,481,515	11,163,359	1,364,561	2,423,584	88,686	79.38	476,182	1,921,966	864,011
Chicago, Detroit & Con. Gd. Trk. Jctn.	Included in Grand Trunk Western.										
Chicago, Great Western	1,496	1,060,251	490,501	1,550,752	207,090	465,490	24,676	93.99	54,975	43,955	114,080
Chicago, Indianapolis & Louisville	657	598,075	200,195	798,270	88,756	238,096	11,579	89.08	30,663	64,351	220,593
Chicago Junction	12	.....	.....	.....	314,804	95,817	92	133.35	2,156	104,996	7,530
Chicago, Milwaukee & St. Paul	10,273	8,045,272	2,209,984	10,255,256	1,358,169	3,641,152	67,957	100.16	511,748	532,761	71,828
Chicago, Peoria & St. Louis	547	94,941	24,022	118,963	33,404	59,334	8,281	181.15	7,407	67,760	14,678
Chicago, Rock Island & Gulf	474	271,945	82,618	354,563	71,553	102,704	6,052	101.43	1,155	18,594	39,490
Chicago, Rock Island & Pacific	7,731	5,205,066	800,258	6,005,324	1,471,274	2,729,751	93,722	99.42	343,391	507,915	139,490
Chicago, St. Paul, Minn. & Omaha	1,733	1,568,581	500,007	2,068,588	231,548	434,856	24,016	79.73	108,177	359,803	324,462
Chicago, Terre Haute & Southeastern	374	318,869	22,009	340,878	49,183	168,309	3,613	107.40	15,500	39,999	46,927
Cincinnati, Indianapolis & Western	321	162,715	51,843	214,558	57,852	80,349	4,309	128.25	10,243	75,690	91,276
Cincinnati, New Orleans & Texas Pacific	337	1,036,264	410,997	1,447,261	88,386	398,179	20,616	70.89	39,900	399,748	400,202
Cincinnati Northern	251	211,937	16,757	228,694	62,066	123,557	2,188	82.91	8,000	31,845	59,409
Cleveland, Cincinnati Chic. & St. Louis	2,395	3,276,131	1,276,308	4,552,439	777,783	1,263,865	74,494	86.17	185,000	553,403	643,258
Coal & Coke. Included in Baltimore & Ohio.											
Colorado Midland. Discontinued.											
Colorado & Southern	1,100	874,873	151,034	1,025,907	109,904	255,945	6,635	75.75	47,100	216,566	80,167
Colorado & Wyoming	41	22,961	1,134	24,095	7,314	17,662	115	82.54	3,723	13,086	6,770
Cripple Creek & Colorado Springs	76	18,671	3,564	22,235	692	3,905	4,445	42.26	2,500	10,410	.....
Cumberland Valley	163	397,774	63,318	461,092	67,525	96,600	6,582	82.73	9,614	73,374	15,113
Delaware & Hudson Co. R. R. Dept.	873	2,291,076	228,169	2,519,245	400,565	859,462	18,659	10.30	60,000	141,504	554,149
Delaware, Lackawanna & Western	945	4,400,467	880,576	5,281,043	499,404	1,355,534	39,518	78.97	220,101	978,277	321,453
Denver & Rio Grande	2,641	2,131,675	380,418	2,512,093	263,642	738,256	18,426	79.93	100,000	414,944	69

† Not available.

Industrial Board of the Department of Commerce

The personnel of the Industrial Board of the Department of Commerce, which is seeking the co-operation of basic industries in an effort to readjust prices, is as follows: George N. Peek, formerly vice-president of Deere & Company, chairman; Samuel P. Bush, president of the Buckeye Steel Castings Company; Anthony Caminetti, commissioner general of immigration, Department of Labor; Thomas K. Glenn, president of the Atlantic Steel Company; George R. James, president of the William R. Moore Dry Goods Company; T. C. Powell, director of capital expenditures, Railroad Administration, and William M. Ritter, president of the W. M. Ritter Lumber Company.

The Railroad Administration is understood to be ready to place an order for 500,000 tons of rails if the price is adjusted to its satisfaction. The railroads are now receiving about 40,000 tons a month on orders placed before the period of federal control, and at that rate deliveries will be completed about July 1. Secretary Redfield has indicated that the first purpose is to reduce prices at the expense of excess profits without disturbing wages for the present.

American Railway Engineering Association Program

The following program has been prepared for the Twentieth Annual Convention of the American Railway Engineering Association to be held in the Florentine room of the Congress hotel, Chicago, on Tuesday, March 18, to Thursday, March 20, inclusive. Morning sessions will be held from 9:30 to 12:30 and afternoon sessions from 2 to 5. At the first session on Tuesday the president's opening address will be followed by reports of the secretary and treasurer and of standing and special committees after which the reports of the various regular committees will be taken up in the order indicated below.

As announced in last week's issue three meetings of interest to members of this association will take place on the evening of Monday, March 17, the day preceding the convention. The Railway Signal Association will hold its meeting at the Auditorium on Monday, March 17.

TUESDAY

Signals and Interlocking.	Records and Accounts.
Signs, Fences and Crossings.	Rules and Organization.
Conservation of Natural Resources.	Economics of Railway Labor.
Track.	

TUESDAY EVENING

Illustrated Use of Labor-Saving Devices.	Developments in the Study of Transverse Fissures.
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WEDNESDAY

Wood Preservation.	Buildings.
Yards and Terminals.	Ballast.
Electricity.	Roadway.
Ties.	Rail.
Stresses in Railroad Track.	

THURSDAY

Iron and Steel Structures.	Uniform General Contract Forms.
Masonry.	Economics of Railway Operation.
Water Service.	Economics of Railway Location.
Wooden Bridges and Trestles.	

Aviation Records

Washington to New York in one hour twenty minutes is the latest 200-mile airplane record. This speed is said to have been made on March 6 by Col H. A. Dargue and Lieut. Philip Lucas, army aviators. They flew at a height of about 6,000 feet, in an airplane equipped with a 400 hp. Liberty motor.

On March 7, Major Fleet and Captain White flew from Dayton, Ohio, to Mineola, N. Y., in 4 hours 33 minutes. Mineola is 20 miles east of New York City. This is the time deducting a stop of about two hours for repairs at Newburgh, N. Y. The air-line distance between Dayton and New York is about 540 miles, but the distance flown can be stated only approximately as the flyers were driven 100 miles off their course by a storm. By reason of the snow and the fog they had to ascend to a height of about 10,000 ft., and they steered all of the way by compass.

Two large United States naval flying boats, of the F-5-L type, flew from Hampton Roads, Va., to New York City (Rockaway), on March 12, without a stop, in four hours thirty minutes, each machine carrying seven passengers with a gross load of about

13,000 lbs. The distance is about 300 miles. During the flight the A1070, one of the two flying boats, developed trouble in one of her 400 hp. Liberty motors. While the huge machine continued in the teeth of the stiff breeze Chief Mechanic Sacks overhauled the defective engine, and succeeded in repairing the fault in midair. After this the flight proceeded without further incident. Each of the two boats carried photographic apparatus, and photographs and moving pictures were taken during the flight. The A-1070 was piloted by Ensign Souther, and the A-4036 by Ensign Irvine. Wireless telegraph and telephone communication was maintained between the two ships and with the shore stations throughout the flight. These airplanes each measure 103 ft. 9 in. across the wings, and have an overall length of 74 ft. 3 in. Each is equipped with two twelve-cylinder 400 hp. Liberty motors. They are capable of eight hours' sustained flight.

Railway Business Association

The Railway Business Association announces that chairmen of all standing committees of the association for the present year have accepted appointment as follows: Railways After the War, W. W. Salmon, president, General Railway Signal Company; Government Purchasing Policies, Knox Taylor, president, Taylor-Wharton Iron & Steel Company; Action, A. H. Mulliken, president, Pettibone-Mulliken Company; Finance and Administration, W. G. Pearce, president, American Brake Shoe & Foundry Company. The secretary of the association in a recent bulletin says that the number of new members acquired thus far during 1919 is 43, which brings the roll up to 338, the greatest number yet reached by the association.

The secretary also quotes a telegram which President Alba B. Johnson of the association sent to Director General Hines. The telegram is as follows: "Congratulations on your courageous and manly spirit in facing difficult situation created by failure of revolving fund bill. You are quoted as expressing confidence in patriotic co-operation of equipment companies. Please regard the Railway Business Association as ready to name conferees to participate on behalf of the railway supply industry in development and execution of measures to stabilize employment."

Steps are under way, in which the Railway Business Association will participate, for co-operation among representatives of the several interests to meet the serious transportation and industrial situation immediately confronting the country.

Thirteenth Engineer (Railway)

Regiment Sees Active Service

The 13th Engineers Regiment, composed of railway men on roads running west from Chicago, which has been operating military railroads back of Verdun was scheduled to leave Fleury-sur-Aire on March 7, on the way to an embarkation port preliminary to its return home. According to a cable published in the Chicago Daily News, on March 6, it has the distinction of being the first American Engineer Regiment to enter active service in the war, and has an excellent record for the handling of men and supplies, and for the assistance given in the preparation for the American drive on the Meuse-Argonne.

Although engineer regiments are generally classed as non-combatant units, the 13th has been classed as a combat unit in orders from the American and French headquarters, with the instructions that on the discharge papers of each officer and man the words, "Took part in the Champagne, St. Mihiel and Meuse-Argonne offensives," be inserted. Another distinction of the 13th is the insignia of a blue square cloth patch with a red engineer castle in the center, surrounded by a circle of 13 white stars, which indicates the beginning of the American nation and the start of the American expedition. Usually a division is the smallest unit that has its own shoulder insignia.

On October 18, 1917, the 13th took over the operation of the railroads in the French advanced zone and was relieved on February 28, 1919. At the end of 1918 it had moved 1,777

trains, carrying millions of men, including many who were wounded, and 9,230,080 tons of freight, as well as the private trains of President Poincare, General Pershing, Secretary Baker and others. The 13th was operating, on the day the armistice was signed, 229 kilometers (138 miles) of track supplying the Argonne, Verdun and St. Mihiel fronts.

As part of the railroad was within range of the German artillery and all of it within range of heavy explosives and machine guns of airplanes, the men were obliged to run the trains and repair the track under constant fire. Twenty-four immense railroad guns were firing along this line. One track was used for ammunition and the other for supplies.

Several members of this regiment received special recognition. In his letter forwarding the decorations, General Pershing said: "The cheerfulness, adaptability, loyalty and self-sacrificing devotion to duty uniformly displayed under trying circumstances by officers and men from the regimental commander to the most recently arrived private have added a new luster to the traditions of our railway service."

American Welding Society to Be Organized

An association known as the American Welding Society will be organized at the Engineering Societies building, New York, at 10:30 a. m., March 28, 1919. This society will merge the welding committee of the Emergency Fleet Corporation and the National Welding Council, and its purpose is to provide a disinterested and dependable source of information on welding, not only for the benefit of the manufacturers of welding apparatus and supplies, but also to aid those who use welding in their production and those who purchase welded goods. The society will bring together in the manner usual for scientific societies persons from all branches of the industry, who may be interested in any of the welding processes. It is proposed that the society will create and assist in maintaining a Bureau of Welding which will be a separate organization designed to take advantage of the principle of co-operation in research and standardization. The American Bureau of Welding will consist of a joint board of directors, 30 from the American Welding Society and one each from the various scientific and engineering societies, including the American Railway Association, and one each from the United States Commerce, Navy and War Departments and the United States Shipping Board.

Membership in the American Welding Society is divided into five classes: Class A, sustaining members, annual dues \$100; open to one or more representatives from each corporation interested. Class B, annual dues \$20; open to individuals who may or may not be employed by corporations, and to consulting engineers, college professors, etc. Class C, annual dues \$10; open to members of existing societies which will become affiliated with the new society through the proposed Bureau of Welding. Class D, annual dues \$5; open to welding artisans. Class E, open to trade associations, putting them in the same category as corporations. Class F, honorary members. Class C and D memberships do not carry the privilege of voting or holding office.

The activities of the society will include the promotion of research work on problems of common interest to all or groups of the membership, including the financing of such projects; the consideration of questions of standardization, which it is proposed shall be handled in co-operation with the American Engineering Standards Committee through the agency of the Welding Bureau; the exertion of a steadying and unifying influence on legislation affecting welding by supplying law makers with authentic information, and the study of proper methods of training autogenous welders.

It is reported that already a large number of corporations and engineers are interested in the project, including officers and members of many of the national technical and engineering societies, universities and engineering schools, government departments and bureaus, gas and electric welding companies, and shipbuilding, steel and automobile companies. Those interested in the proposed organization should address H. C. Forbes, secretary, American Welding Society—Temporary Association, Engineering Societies building, New York City.

Traffic News

Coal loading for the week ended February 22 amounted to 155,935 cars, as compared with 230,599 for the corresponding week of 1918. Estimated reports for the week ended March 1 show a total of 162,666, as compared with 241,073.

A decrease of 33.9 per cent is reported in the number of cars loaded with grain during the month of February on the roads comprising the Central Western region, as compared with the records for the same period last year. During this period in 1919 29,668 cars of grain have been loaded, as compared with 44,907 cars during the corresponding month last year. There was also a decrease of 33.7 per cent in the number of cars of coal loaded, the cars totaling 82,219, as compared with 124,040 cars during the month of February, 1918. During the same period this year, 51,342 cars of livestock were loaded, as compared with 51,181 cars last year.

Hon. F. K. Lane, Secretary of the interior, announces further progress during the month of February in the classification of public lands by the Geological Survey. Under the stock-raising homestead law, permitting entries of lands chiefly valuable for grazing and the raising of stock in tracts of 640 acres or less, lands were designated during February as follows: Colorado, 87,540 acres; Idaho, 46,215 acres; Montana, 390,791 acres; Oregon, 92,686 acres; Wyoming, 525,662 acres. The total area designated for the month was 1,142,894 acres. Over a half million acres of land were designated under the enlarged-homestead act, permitting entry in areas of 320 acres or less. These areas lie in Colorado and North Dakota. By this action the total area classified as nonirrigable and designated for entry under this act was increased to more than 285,000,000 acres.

The Western Freight Traffic Committee has docketed with the St. Louis, and New Orleans district freight traffic committees the question of rates on packing house products and fresh meats in peddler cars from Oklahoma City, Okla., to Southern Pacific points in Louisiana. The action is taken on the request of interested shippers. The committee has also docketed with the Denver, Kansas City, and Dallas committees the question of rates on slack coal from Colorado and New Mexico producing points to El Paso, Tex. The request is for 75 per cent of the lump coal rates. Acting again on the request of interested shippers the committee has also docketed with the St. Louis committee the question of revising the rates on petroleum from the Ardmore-Lawton, group to northern destinations to the basis of 3½ cents instead of 5 cents over the rates from northern Oklahoma. The St. Louis District Freight Traffic Committee, in announcing synopses of its dockets of March 6 to be considered by the committee, includes one which provides for rates on steel rails, cross ties and track fastenings, in straight or mixed car loads. This committee will also consider the cancellation of loading, unloading and weighing charges on livestock at the Independent Stock Yards at St. Louis, Mo.

Activities of the Traffic Clubs

The activities of the Traffic Club of Omaha, Neb., have been taken over by the Traffic Managers' committee of the Traffic Bureau of the Chamber of Commerce of Omaha and the former organization has ceased to exist.

The Traffic Club of the Cincinnati Chamber of Commerce has unanimously elected the following officers: P. J. McLaughlin, traffic manager for the Charles Boldt Glass Company, Cincinnati, chairman; E. H. Smith, vice-chairman, and H. B. Rubey, secretary.

At the meeting of the Akron Traffic Association on February 25, E. V. Conwell, counsel for the American Express Company at Akron, Ohio, spoke on "The Packing and Marking of Freight"; C. W. Barber, agent of the Akron, Canton & Youngstown Railway at Akron, Ohio, on "The Payment of Freight Charges"; R. A. Higham, traffic foreman of the In-

ternational Harvester Company at Akron on "Why is a Traffic Club," and E. C. Knox, traffic manager of the Firestone Tire & Rubber Company at Akron, on "Claims."

Restoration of Export and Import Rates Asked

Restoration of the pre-war basis of export and import rates through Pacific ports was asked by a delegation of representatives of the Pacific coast cities, Seattle, Tacoma, Portland, Los Angeles and San Francisco, at a conference with Edward Chambers, director of the Division of Traffic, at Washington, on March 10. They pointed out that while during the war the cancellation of the rates had little effect, the effect since the signing of the armistice has been to divert a large amount of traffic for the Orient to New York and the Panama canal. Mr. Chambers promised some relief in 10 days.

Chicago Traffic Club Advocates Private Ownership

The Traffic Club of Chicago at a special meeting held on February 25, adopted resolutions opposing government ownership or operation of railroads and favoring their return to private ownership as soon as possible, with legislation to protect the interests of the public and of the carriers. The resolutions also "favor the enactment of suitable legislation which will continue in effect, after the return of the railroads to their owners, the existing rates, fares, and charges pending, their change by the carriers or by proper authority." The resolutions were prepared and submitted by a committee composed of F. B. Montgomery, traffic manager of the International Harvester Company (chairman); Samuel O. Dunn, editor of the *Railway Age*; H. C. Barlow, traffic director of the Chicago Association of Commerce; Oscar F. Bell, traffic manager of the Crane Company; E. L. Dalton, traffic manager of Montgomery Ward & Company; Luther M. Walter, of the firm of Borders, Walter & Burchmore; H. A. Palmer, editor of the *Traffic World*; F. B. Houghton, traffic manager of the Atchison, Topeka & Santa Fe; F. Zimmerman, traffic assistant to the Chicago terminal manager; W. A. Terry, assistant traffic manager of the New York Central; S. H. Johnson, traffic manager of the Chicago, Rock Island & Pacific, and O. A. Constans, traffic manager of the Baltimore & Ohio.

In order that these resolutions may be properly presented to Congress and to complete arrangements to co-operate if possible with other traffic clubs in this matter a committee on public affairs has been appointed, with F. B. Montgomery as chairman, and Samuel O. Dunn and Oscar F. Bell as members.

Freight Rates to the Orient

A delegation representing Pacific coast ports, Chicago business establishments and inland waterway cities held a conference last week at the Chicago Association of Commerce for the purpose of enlisting the aid of the Railroad Administration in promoting American competition with England in the matter of oriental trade. Resolutions adopted at the meeting urged the United States shipping board to put into effect the rates announced for trans-Pacific business by placing upon the Pacific ocean the vessels of the Emergency Fleet Corporation to carry cargoes at these rates and that the Shipping Board co-ordinate its work with that of the Railroad Administration. Another set of resolutions calls attention to the need of restoring the business of the nation to normal and urges the discontinuance of the "stringent permit system." Under the rates in effect before the government took possession of the railroads, Chicago shippers could send many commodities to the orient at \$1.50 per 100 lb. and it is the restoration of this rate that is now asked for.

H. H. Merrick, president of the Chicago Association of Commerce, and H. H. Garver, head of the association's Foreign Trade Bureau directed the course of the meeting. Among those who attended the session were Robert Bridges, president of the Port of Seattle, Wash., Harry Y. Saint, secretary of the Foreign Trade Bureau of the Chamber of Commerce and Commercial Club of Seattle, Samuel J. Wettrick, special counsel for the Seattle Chamber of Commerce, and the following Chicago men: Frank T. Bentley of the Illinois Steel Company, R. R. Hargis, of Wilson & Company, T. T. Bradford of the International Harvester Company, A. C. Owen of Swift & Company, and M. B. Howell, of Montgomery Ward & Company.

Commission and Court News

Interstate Commerce Commission

E. Morris and E. B. Boyd, agents, have filed with the commission a fifteenth section application for a revision of commodity rates from all points in central territory, including Illinois and Mississippi river east and west bank pro-rating points; also Madison and Beloit, Wis., and points grouped therewith, published in tariffs of individual carriers, to points in eastern trunk line and New England territory, including the Virginia cities and points in Canada subject to Boston rates, in order to restore relationships and differential bases existing prior to the issuance of General Order No. 28.

In *Commercial Club of Omaha v. Baltimore & Ohio, et al.*, the commission finds that the 1917 summer excursion fares between Omaha, Neb., and eastern points gave undue preference to Kansas City and St. Joseph, Mo., whence the Chicago & Alton reduced its fares below the normal basis from Kansas City and St. Louis to Chicago and other carriers met the reduction. The commission finds that there is nothing to show that the Omaha rates were unreasonable in themselves. No summer excursion fares were made in 1918, but the decision is expected to deter the carriers from a re-establishment of the unlawful adjustment in the future.

In the case of the *Chicago Live Stock Exchange vs. Atchison, Topeka & Santa Fe, et al.*, the Interstate Commerce Commission holds that the Union Stock Yard & Transit Company of Chicago is a common carrier subject to the provisions of the act to regulate commerce, and that the notice of cancellation of its tariff of charges for loading and unloading live stock in carloads at the Chicago Stock Yards has not been justified. The commission finds that the loading and unloading of livestock is the duty of the shipper, but may be assumed by the carriers in those instances in which their convenience is aided and their equipment conserved by so doing. In the absence of a showing of undue prejudice, how much, if any, of the loading and unloading charges at the Chicago Stock Yards may properly be absorbed by the line haul carriers is dependent upon the degree to which their interests are conserved in any particular instance; and the failure to absorb all of the charges at the Chicago yards, while absorbing such charges at certain other markets, has not been shown to produce undue prejudice.

State Commissions

A "service bureau" has been created by the railroad commission of Texas, at Austin, Tex., in order that individuals, firms and cities may be rendered direct assistance in securing satisfactory railroad service, both freight and passenger.

The governor of New York has recommended and the legislature is expected to pass a law abolishing the Public Service Commission of five members for the first district (New York City), and establishing in its stead a commission of one member for the regulation of railroads and public utilities and another commission of one member to supervise the construction of new subways.

Court News

Employers' Liability Act

The Circuit Court of Appeals, Fourth Circuit, holds that an engine regularly hauling interstate passenger trains was used in interstate commerce when taken out of a train in order that a bolt might be repaired, being placed in the shop and sent out the same day on its regular run, and the employee injured in doing the work was injured while employed in interstate commerce.—*A. C. L. v. Woods*, 252 Fed. 428. Decided May 7, 1918.

Foreign Railway News

The total number of passengers carried by the five companies controlled by the London Electric Railway Company—including the Metropolitan District, and the General Omnibus Company—last year, is estimated at 901,000,000. This is exclusive of passengers booked through from other railways.

French Railway Striker Sentenced

Midol, secretary of the Railwaymen's Union of the Paris-Lyons-Mediterranean Railway, who, on January 25, caused a strike of one minute's duration on the entire system, has been sentenced to one year's imprisonment, with benefit of the First Offenders' Act.

Rebuild Serb Railroad

Rapid progress is being made in the repair of the main Serbian railway which runs from Belgrade through Nish to Salonika, says a French wireless despatch from Salonika. It is hoped that the first trains will be able to run between the northern frontier and Nish before the end of March. All the bridges and many miles of rail were destroyed by the Germans and the Bulgarians. The repair of the telegraph lines paralleling the railway is nearly completed.

Another Strike in Cuba

The general strike in Cuba has spread, according to advices to the State Department at Washington, last week, until transportation in fully half of the country is tied up. Practically all industries are reported at a standstill.

The latest demands of the unions, the advices said, are that all non-union railroad employees be discharged. In the Havana docks, 500 convicts now are employed as stevedores.

Greece Wants Steel Ties

The Greek government is in the market for 500,000 steel railway ties of 242 pounds weight each, according to the official announcement made by the Canadian Trade Commission, Ottawa, Canadian firms contemplating bidding, the announcement says, must take immediate action as the demand is urgent. American firms are known to be already in the field. The Trade Commission has reason to believe that this may give Dominion manufacturers a chance to use surplus steel and the forging presses which were installed for munitions making, possibly at better rates than their competitors.

Swiss Ocean Projects

The French minister for public works has approved a program adopted by the Superior Council for public works in connection with the improvements to be introduced in the communications by rail between Switzerland and ocean ports. This program includes especially the establishment of a new line between Limoges and St. Germain des Fosses, the improvement of the present express service from Bordeaux to Lyons by the strengthening of the line between St. Germain des Fosses and Lyons, and by the electrification and double tracking of the lines on the Paris-Orleans Railway, and, finally, the electrification of the difficult sections on the Tulle-Clermont-Ferrand line.

Military Railways in France

Replying in the Senate recently to interpellations in regard to supplies, M. Clavelle, minister of public works and transports, stated that he had informed the British and United States Governments that the French Government intended to maintain the railway works which their allies had carried out on French territory, under financial condi-

tions which remain to be fixed. The minister also spoke of the work of restoring roads, of which it would be necessary to remake 65,000 miles, and waterways, on which 115 locks and 450 bridges have to be reconstructed, while 60 miles of canals have been entirely destroyed. He added that the Germans had delivered up to the middle of February between 36,000 and 37,000 freight cars and between 1,400 and 1,500 locomotives, or one-half of the material due to France.

International Control of Railroads Proposed

The question of the internationalization of railways and international waterways has come into sudden importance, says a press despatch from Paris, through a report made to the Commission on Waterways, Ports and Railways by its drafting committee. The British desire to have the waterways used without discrimination, while the Americans, realizing the effect the application of this principle might have upon their great railway systems, are insistent upon confining the application of the principle of international use of such communications to special cases to be enumerated, and especially to new states.

The Czechoslovaks and the Poles are disposed to resist the international use of their communications unless reciprocal privileges are allowed to them.

Equipment for Mexican Railroads

According to advices from the City of Mexico, the Carranza government has ordered the purchase of 200 passenger cars for the National Railways of Mexico. The cars will be bought in the United States and will be used to replace the equipment that was destroyed during the protracted revolutionary period. The government also plans to place a large order for freight cars in the United States in a short time. The shops of the railroad are building and repairing freight cars as rapidly as possible, but the additions do not begin to meet the demands of traffic. It is reported that the government will prohibit the operation of private freight trains upon the railroad lines of the country as soon as the shortage that now exists in equipment is filled. Several mining and other industrial companies have been operating their own trains for some time past.

Chinese Railroad Problems

Associated Press despatches from Peking Monday report that influential Chinese interests which have been opposed to the plan for unification and internationalization of the Chinese railways are relaxing somewhat in their opposition to the plan. The Japanese official opposition, however, is still in evidence.

It was announced Monday, says the despatch, by the Chinese Minister of Communications that the government would agree to the internationalization of the Shantung and South Manchurian (Japanese); the Chinese Eastern (formerly Russian), and the French Yun-Nan railways, but would object to the internationalization of the railways under Chinese government control. Another suggestion is that China be admitted to the banking group, being credited with a certain proportion of the advances made as were Russia and Japan when they were first admitted to the coalition of interests.

Danish Railways Need Equipment

No new railroads have been built in Denmark during the war, and no new lines or extensions planned, says Consul B. L. Agerton, writing from Copenhagen on January 8. Additional tracks are being laid in some places, but materials are not available for very much work of this kind. The track and roadbed of the Danish railways are in fairly good condition, but the rolling stock is insufficient and in bad repair. During the summer and fall, when traffic is heaviest, there is a great shortage of rolling stock, both of cars and of locomotives. These are normally purchased abroad, but during the war no deliveries have been possible. In November the State railway ordered 700 freight cars and 9 parcel-

post cars from the Danish factory "Scandia," of Randers, Denmark. This factory, however, is not yet in a position to complete any of the cars, because of a lack of materials. The railroads themselves have undertaken to purchase the wheels and axles elsewhere.

[The railways of Denmark are almost entirely state owned. The State Railways operate about 1,300 miles, all of standard gage. The equipment consists of 625 locomotives, 2,234 passenger train cars, and 10,361 freight cars, as well as marine equipment in the form of 24 steam ferries and 7 steamboats.]

Hoover to Be Made Director

General of Austrian Railroads

The Supreme War Council, according to despatches from Paris Saturday, has decided to give Herbert C. Hoover, director general of Allied relief, practical control of all the railways in the old Austrian Empire and to make him the mandatary of the council in demanding locomotives and freight cars from each of the new states of old Austria with which to create a food and relief service. The relief train will run over all lines without political or military interference. The service will be under the relief administration, headed by Mr. Hoover.

Mr. Hoover has placed the matter in the hands of American army engineers for execution. The engineers have been detailed by General Pershing.

The decision of the council amounts in effect to making Mr. Hoover director general of the Austrian railway system in the carrying out of relief work.

Five new states have arisen within the area of old Austria, and all have agreed, says the despatch, to place the entire question of the distribution and management of the railway rolling stock in Mr. Hoover's hands.

Later despatches say that Col. Ryan of the American Army has been appointed executive officer in charge of the work. He formerly was a railway manager in the United States.

Col. Ryan will be assisted by liaison officers of various allied nationalities and will cooperate with the allied food mission at Trieste.

English Channel Tunnel Project Revived

The driving of the tunnel under the English Channel to France is being considered by the government as among its projects for after the war, according to announcement by Bonar Law, who speaking in the House of Commons Monday, said he was discussing the matter with Premier Lloyd George as a means of finding employment for discharged soldiers.

The Daily Mail claims to have definite information that the British and French governments have agreed to the construction of a tunnel under the Channel, and that the details are now being discussed by a special commission in Paris, which also is considering the building of tunnels under the Bosphorus and the Strait of Gibraltar.

The engineering plans for the Channel tunnel, according to the Daily Mail, are so far advanced that work could be begun immediately.

"It is proposed," says the Daily Mail, "to start the tunnel some distance inside both countries, instead of near the coast, as was originally intended, so as to avoid the risks of a fall of the cliffs, such as already has occurred on the British side near the point where the work would have been begun."

"In addition to tracks, the tunnel will carry telephone and telegraph wires, superseding the present sea-bed cables, and also pneumatic tubes for carrying letters and parcels. The French and British railroads concerned are willing to finance the scheme, but the two governments wish to exercise control and some sort of joint state finance for the work may be adopted."

Speaking of the tunnel the Railway Gazette (London), a few weeks ago, said: "Estimated to cost \$80,000,000, a mere trifle in these days of gigantic expenditure, there is no possible doubt that the capital would speedily be forthcoming on the project receiving government approval. It is to be hoped that constructional operations will soon commence, for this essentially important traffic link between England

and the continent has been too long delayed. The cross-channel train ferry service now running with success constitutes some little endeavor to improve the means of communication, but, even under the best conditions, a train ferry is a very poor substitute for a physical connection."

London to Gibraltar via Spain

Considerable interest is being manifested in Spain, says a correspondent to the Times (London) in two great railway projects. The first, already voted as a Bill by the Span-

ish Senate, is for a direct line from Dax, in Southern France, to Algeciras, near Gibraltar. This line is a project of the English and French Governments, and will form a link in the great railway from London to the Cape, the completion of which is now only a matter of time. This line across Spain will be of the international and not of the Spanish gage; it will be worked by electric



traction, and will take the shortest possible route.

Many schemes have been prepared, says the Times' correspondent, but, although the final decision has not yet been made on many points of detail, the broad principles have been agreed upon. The northern section of the line, from Dax to Madrid, to avoid unnecessary competition with the Norte Railway from Irun, will not touch the points of junction from which that line draws its chief goods traffic, and will pass direct through Pamplona and Soria. The southern section, in the plan which seems most likely to be approved, will for similar reasons take a straight course through a practically uninhabited part of the country.

It is proposed to make only one stop between Madrid and Algeciras, at Cuenca, where—as the line will be, at first at any rate, a single one—the trains from the north and south will cross. The northern journey will be made in six to seven hours, as against the present 13 from Irun to Madrid.

The other line is designed to run from Vigo to the French frontier, probably at Hendaye, and is part of a great American project for developing the port of Vigo by the building of docks, warehouses, and all the equipment of a great commercial harbor. By this scheme, the journey from New York to Paris can be shortened by 24 hours, and its importance can be measured by the fact that its realization will give America a commercial entrance to Europe. It is being warmly supported by Spanish capitalists and the industrial interests of the north.

The vast contracts connected with these schemes are already the subject of rival studies and investigations, and English firms, proposing to take a part, the correspondent says, should lose no time in getting into touch with the conditions on the spot.

[Further details concerning these projects will be given in early issues of the *Railway Age*.—Editor.]

Revival of International Services

The re-establishment of the Paris-Bucharest and Paris-Warsaw services, in addition to those between France and Belgium, not to mention the service now maintained to and from Cologne, for the use of the allied armies, serves, says the Railway Gazette (London), as a graphic reminder of the extent to which international routes which have been suspended for the duration of the war are now being brought into use again. Germany and Austria, from their central position, afforded the shortest and most convenient routes for many of the international European expresses running between west and east, and, as in the case of Switzerland, the international transit traffic represented an important source of revenue to their railways. The future of these

services represents a problem of the greatest interest, on which definite prediction would be dangerous at the moment, since so very much depends not only on the territorial adjustments, re-drawing of boundaries, and emergence of new states coming under the purview of the Peace Conference, but also on the future forms of government adopted by the German and Austrian States, which have hitherto enjoyed sovereign powers. One prediction seems, however, safe to make, and that is that within the next few years Italy will handle a larger proportion of the international transit traffic than has been the case in the past. Apart from the very obvious reasons for giving preference to an allied nation, one has to bear in mind the emergence of new routes to the near east, and the schemes for electrifying and otherwise improving traffic conditions on the Italian railways.

Inter-Allied Committee for Trans-Siberian Formally Organized

Allied control of the trans-Siberian railway has been effected, says an associated press despatch from Vladivostok, by the formal organization of interallied, technical and military committee, the result of negotiations of more than six months. M. Oustrougoff, minister of communications in the Omsk government, heads the interallied committee, and John F. Stevens, the American railway expert, the technical committee. The United States is represented on the interallied committee by C. H. Smith, once of the Missouri Pacific railroad, and on the military committee by Col. Gallagher, quartermaster of the American expeditionary forces.

Other representatives on the interallied and technical committees follow: Great Britain, M. Elliott, commissioner at Omsk, and Col. Jack; France, M. Bourgeois and Col. Le Veuve; Italy, Signor Gasco Mater and Signor Garibaldi; Japan, acting, Matsudaira, and Hampei Nagao; China, Iiu, former minister to Petrograd, and Dr. Jeme Tien-you.

The authority of Mr. Stevens is absolute concerning actual operation of the railroad. He is at liberty to employ American, Russian and allied operatives at his discretion and has a free hand in technical matters. The interallied committee is to control the rates and the economic policy. The military committee is charged solely with the co-ordination of military transportation and policing the line. It has no voice in the local management.

Advices to Washington report that American Ambassador Morris, who has been attending the sessions of the Inter-Allied Committee on the Supervision of Siberian Railways at Vladivostok, has returned to his post at Tokio.

Despatches to the State Department announcing his return said that Col. Emerson, inspector-general of the American engineers, had installed an improved system of telephone communication on the Siberian lines.

Traffic and Rolling Stock Conditions in Germany

The same unsatisfactory, retrogressive conditions which at present prevail in most German industries manifest themselves in locomotive and wagon construction, says an article in *Engineering* (London).

The main and auxiliary workshops of the Prusso-Hessian railways employed before the war 70,300 hands, which number gradually was doubled during the war, amounting in the beginning of 1918 to 140,140 hands. In spite of this increase in the number of employees, the capacity of the works has materially decreased. It is stated that during the summer of 1918 as many as 950 locomotives were delivered duly repaired per week, while the number had receded to 680 per week in the beginning of 1919. The shortage of materials is not so pronounced at these works as at the private concerns, since the Railway Department still has considerable stocks. The lack of copper caused much difficulty during the war in the repair of locomotives, and certain parts which were formerly always made of copper had to be made of iron.

Demobilization has, to a great extent, mended matters and, besides, a fair amount of copper is said now to be available. The private concerns have had greatly to reduce their output. One of the largest undertakings in this branch in North

Germany was not able to deliver a single locomotive during December, although the number of hands employed had been materially increased. A number of new firms have taken up the repair of locomotives, but seem to have to contend against a considerable amount of technical difficulties. The Prussian Department for Public Works has placed contracts for an amount of 1,600,000,000 marks (about \$320,000,000), and altogether 3,300 locomotives and 71,000 wagons have been ordered.

The Berlin Tramways have recently contracted for a large number of cars and trailers, principally with the Hannover Wagon Company which, being outside the combine, accepts lower prices than the works within the ring. These works have orders for 100 driving cars and 100 trailers, the former being about 250 per cent and the latter 100 per cent dearer than before the war.

[The above will supplement information given in this column in the *Railway Age* of January 17, 1919, page 228.]

Speaking more particularly of traffic conditions, another item in the same issue of *Engineering* says: From all accounts the rolling-stock of the German State Railways is in a deplorable condition, which applies both to the engines, the passenger carriages and the goods wagons, and the revenue is at the same time dwindling down. For November, 1918, the passenger traffic certainly showed an increase in receipts of 10,485,000 marks, compared with the same month of the previous year, but the rates had in the meantime been raised 10 per cent. The receipts from the goods traffic showed a decrease of 40,950,000 marks, or 24.16 per cent, compared with November, 1917, in spite of the rates in the meantime having been raised 15 per cent. As a result, the receipts were, on the whole, 30,465,000 marks, or 12.86 per cent lower than for the corresponding month the previous year. Some minor receipts from other sources reduced the deficit, as compared with the same months the previous year, to 27,890,000 marks, or 10.49 per cent.

The British Railway Labor Situation

The agreements which ended the strike on the London tube railways, on February 8, by no means settled the labor disputes on those lines and still less on the rest of the British railways. They were only temporary devices, says the *Times* (London), to bridge over the period between February 1, when the railwaymen's eight-hour day came into operation, and the time when a more permanent plan can be effected. What that permanent plan will be, no one can say. It has yet to be discussed, in connection with other far-reaching questions affecting the conditions of service and wages of railwaymen, at joint conferences between the Railway Executive Committee and the Executive Committees of the Railwaymen's Unions.

Though the cabinet has laid down that the eight-hour day which it conceded was to be a working day of eight hours, exclusive of meal times, the railwaymen's leaders still believe that the whole question of the exclusion or inclusion of meal times can be reopened.

Apart from the question of working hours, there are other issues of first importance which the railwaymen are raising in the conferences. They can best be stated in the form of summaries of the national programmes formulated by the three great unions of railway employees, the N. U. R. (with 400,000 members), the Locomotive Engineers and Firemen (40,000), and the Railway Clerks' Association (70,000).

The following summaries, taken from the *Times* (London), will outline the railwaymen's demands:

NATIONAL UNION OF RAILWAYMEN

- (1) That all advances given as war increases (originally called "bonuses" and later "war wages") be converted into permanent wages;
- (2) That eight hours constitute a working day, and 48 hours a working week;
- (3) That double time be paid for all overtime and for Sunday duty, and time and a half for night duty;
- (4) That the period of rest between each turn of duty be not less than 12 hours;
- (5) That 14 days' holiday with pay be allowed annually;
- (6) That conditions of service be standardized on all railways in the United Kingdom; and
- (7) That there be equal representation, both national and local, for the union on the management of all railways.

LOCOMOTIVE ENGINEERS AND FIREMEN

(1) That the standard rates of pay be: Enginemen and electric motor-men, 14s. a day; firemen and electric trainmen, 10s.; cleaners and electric train gatemmen, 7s.

(2) That 10 per cent be added to the standard rates of every 10 per cent increase in the cost of living from June, 1917, and reductions to be on the same basis; but no reduction if the cost of living falls below the figure for June, 1917.

(3) That a special rent allowance of 5s. a week be granted to men in London and other expensive centres.

(4) Eight hours a day.

(5) That time and a quarter be paid for overtime and night duty, and double time for Sunday duty.

(6) At least 12 hours' rest between turns at home station; nine hours when booked away from home station.

(7) Lodging allowances of 2s. or 3s. a day away from home.

(8) That 14 days' annual holiday, with pay, be allowed after 12 months' service.

RAILWAY CLERKS' ASSOCIATION

(1) A 38-hour week for day workers and a 34-hour week for night workers.

(2) A scale of minimum salaries beginning at £70 a year for a boy of 16 and rising by regular increments to £230 for a man of 28, with an additional £20 throughout the scale for clerks employed in London.

(3) A further scale, ranging from £250 to £1,000 a year, for station-masters, goods agents, and others holding positions of more than ordinary responsibility.

It should be explained, says the Times, that had the war not intervened, the hours, wages, and conditions of service of railwaymen would have come up for revision in the normal course four years ago. In October, 1914, however, a truce agreement was entered into by the N. U. R. and the Locomotive Engineers with the railway authorities, providing for the continuance of the 1911 Conciliation Scheme and a stereotyping of "all existing contracts and conditions of service" during the suspensory period. The truce agreement has now been determined. The position of the Conciliation Scheme is obscure, but presumably it has ended with the truce, and the Railway Executive Committee, under the authority of the Board of Trade, is to embark on the negotiation of the railwaymen's programs on a national basis.

The outstanding item in the programs, of course, is the demand of the N. U. R. that "war-wage" advances shall be made permanent. Those advances now aggregate 33s. a week. As they were made under the truce agreement, it could be contended by the Government that they cease with the agreement. There is, however, a clause in the agreement made on August 8, 1917 (when "war bonus" was converted into "war wages") which provides that the additional wages "are to be regarded as a war advance intended to assist in meeting the increased cost of living, and are to be recognized as due to and dependent on the existence of abnormal conditions now prevailing in consequence of the war."

The following table shows the various stages by which the "war wage" was raised to 33s. a week (16s. 6d. in the case of employees under 18 years of age):—

	Men s. d.	Boys s. d.
October, 1914.....	3 0	1 6*
October, 1915.....	2 0	1 0
September, 1916.....	5 0	2 6
April, 1917.....	5 0	2 6
November, 1917.....	6 0	3 0
April, 1918.....	5 0	2 0
September, 1918.....	5 0	2 6
November, 1918.....	3 0	1 6
Total	33 0	16 6

*June, 1915.

On the occasion of the last advance a scheme was adopted, with the concurrence of the Board of Trade, under which the war wage should thereafter be regulated by a sliding scale based on the cost of living as shown in the official Board of Trade returns. The program of the Locomotive Engineers' Society, it will be noted, provides for a continuance of this scheme, and is a less extreme demand than that of the larger union.

Australia Bars Importation of Goods Not of British Origin

Press despatches from Melbourne, under date of March 8, report that the minister of customs of the Commonwealth of Australia has issued a proclamation prohibiting the importation into the Commonwealth of all goods other than those of British origin. The reason for this action is not explained in the despatches.

Equipment and Supplies

Representatives of car and locomotive companies who attended a conference with Director General Hines on Thursday morning included Andrew Fletcher, president, American Locomotive Company; S. M. Vaulain, vice-president, Baldwin Locomotive Works; Mr. Dixon, vice-president, and Mr. Larson, treasurer of the Lima Locomotive Company; W. W. Woodin, of the American Car & Foundry Company; J. W. Bettendorf, president, Bettendorf Company; D. B. Gehly, treasurer, Cambria Steel Company; C. A. Liddle, vice-president, Haskell & Barker Company; E. S. S. Keith, of the Keith Car & Manufacturing Company; J. E. Johnson, vice-president, Laconia Car Company; H. W. Miller, vice-president, Lenoir Car Works; Mr. Joyce, of the Liberty Car & Equipment Company; R. J. Magor, of the Magor Car Corporation; W. C. Arthurs, of the Mt. Vernon Car Manufacturing Company; Mr. Pigett, president, Pacific Car & Foundry Company; J. E. Ralston, president, Ralston Steel Car Company; J. N. Hansen, president, Standard Steel Car Company, also representatives of McGuire, Cummings Manufacturing Company; the Pressed Steel Car Company, and the Pullman Company.

At the conference, Director General Hines gave assurance that there was no cause for alarm and that the situation would be met, but he was not prepared to state just what plan would be adopted. Several of the representatives will stay over to discuss the matter with him later. While warrants could be issued to equipment builders, it is possible that an effort will be made to have the banks carry them so they can pay for the materials, labor and specialties.

Reduction in Steel Prices

A reduction in price of 4 per cent below the prices agreed upon last summer by the government and the American Iron & Steel Institute has been fixed for the steel castings used on the cars and locomotives ordered by the Railroad Administration, by the price-fixing committee of the War Industries Board, after negotiations with the steel casting manufacturers.

The prices as fixed are as follows:

Capacity car	BOLSTERS (BODY OR TRUCK)		
	Quoted price	Reduction	Revised price
30-ton	\$87.50	\$3.50	\$84.00
40-ton	99.50	3.98	95.52
50-ton	108.50	4.34	104.16
57½-ton	118.50	4.74	113.76
62½-ton	130.00	5.20	124.80
70-ton	165.00	6.62	158.38

Capacity car	TRUCK SIDE FRAMES					
	FREIGHT CARS AND LOCOMOTIVE TENDERS					
	Quoted price		Reduction		Revised price	
	A*	P†	A*	P†	A*	P†
30-ton	\$118.50	\$124.50	\$4.74	\$4.98	\$113.76	\$119.52
40-ton	129.50	135.50	5.18	5.42	124.32	130.08
50-ton	139.50	151.50	5.58	6.06	133.92	145.44
57½-ton	154.50	166.50	6.18	6.66	148.32	159.84
62½-ton	170.00	181.00	6.80	7.24	163.20	173.76
70-ton	175.50	201.50	7.02	8.06	168.48	193.44

*Andrews design. †Pedestal design.

Locomotive and Car Deliveries

New cars were accepted during the week ended March 1 as follows:

Road	Number	Type	Manufacturer	Total accepted for given roads
A. C. L.....	157	40 Ton D. S. Box...	Am. Car & Fdy. Co.	456
C. C. & St. L....	33	40 Ton D. S. Box...	Am. Car & Fdy. Co.	250
P. McK. & Y.....	148	50 Ton S. S. Box...	Am. Car & Fdy. Co.	430
C. C. & O.....	61	50 Ton S. S. Box...	Bettendorf Co.	61
N. Y. C.....	147	50 Ton S. S. Box...	Haskell & Barker...	625
L. & N.....	33	50 Ton Comp. Gond.	Am. Car & Fdy. Co.	336
L. & N.....	21	50 Ton Comp. Gond.	Std. Steel Car....	200
N. C. & St. L....	58	50 Ton Comp. Gond.	Am. Car & Fdy. Co.	58
N. Y. C.....	112	70 Ton L. S. Gond.	Pressed St. Car....	145
Total	770			

The following new locomotives were shipped during the week ended March 1:

Works	Road	Number	Type
American	Erie R. R.	4	USRA Santa Fe
	Penn. L. W.	5	Santa Fe
	Monongahela	10	USRA Mikado
	Chic. Great Western	2	USRA 6W. Sw.
	Grand Trunk	1	USRA 6W. Sw.
	Cent. of Georgia	1	Mallet
		23	
Baldwin	A. T. & St. F.	3	Mikado
	Lehigh Valley	3	Pacific
	Great Northern	2	8W. Sw.
	Car. Clinchf. & Ohio	3	Mikado
	B. & O.	2	USRA Mikado
	Phila. & Reading	1	Consol
	Great Northern	1	Mikado
	Chic. Burl. & Quincy	1	Mikado
	Ill. Cent.	1	Mikado
	Penn. R. R.	1	Mikado
		18	
Total		41	

127 locomotives were delivered during February to the railroads under federal control, in addition to eight miscellaneous domestic and 164 foreign locomotives.

Freight Cars

THE LIBERTY STEEL PRODUCTS COMPANY, New York, is inquiring for 100 small industrial flat cars for 18 in. gage.

Iron and Steel

THE PENNSYLVANIA EQUIPMENT COMPANY, Philadelphia, Pa., is in the market for 2,500 tons of 45-lb. relaying rails.

BRITISH INDIA is in the market for 800,000 tons of rails, also splices, bolts and angles, to be delivered in 1919, 1920 and 1921, according to a cable received by the Canadian Trade Commission in Ottawa, from the Canadian Mission in London, with which it is in co-operation. While this order will doubtless be filled largely by British and Canadian firms, it is interesting as indicating the transportation expansion and rehabilitation which is to come about in the most populous of British possessions.

Signaling

LEHIGH VALLEY.—This company has ordered from the General Railway Signal Company, a mechanical interlocking, 16 levers, for Vosburg, Pa., and a smaller machine for Carney, Pa.

THE MONONGAHELA SOUTHERN has contracted with the Union Switch & Signal Company for the erection of two electro-pneumatic interlocking plants, one a 27-lever frame for controlling 40 functions to be located at Wilson, Pa., the other a 15-lever frame for controlling 18 functions to be located at Clairton Junction, about one mile from Wilson.

THE UNITED RAILWAYS & ELECTRIC COMPANY, Baltimore, Md., has awarded a contract to the Union Switch & Signal Company for the installation of an electro-pneumatic interlocking at Sparrows Point, Md., at a junction of its own lines and a crossing of one of these lines with the Pennsylvania. The machine will have a total of 11 levers for controlling 21 functions. Alternating current track circuits will be installed. The Electric Company's lines will have color light signals and the Pennsylvania will be equipped with position light signals.

THE HYDRO-ELECTRIC POWER COMMISSION of the Province of Ontario, Canada, has placed an order with the Union Switch & Signal Company, Swissvale, Pa., for the installation of a complete electro-pneumatic interlocking plant. The Power Commission is excavating for a canal to carry water from the Niagara river above Niagara Falls to a hydro-electric plant twelve miles away. The rock and earth from this excavation is being carried away by trolley trains, and it is on the trolley line that the interlocking is to be placed. It is estimated these trains will run through this interlocking at the rate of one every 90 seconds. Signal indications will be displayed by means of color light signals.

Supply Trade News

Malcolm Gifford, president of the Gifford-Wood Company, manufacturers of ice harvesting machinery and elevator conveyances, died on Wednesday, March 5, at Hudson, N. Y.

A. G. Jablinski has been appointed chief engineer of the American Crane & Engineering Company, with headquarters in the Nasby building, Toledo, Ohio. Mr. Jablinski was formerly with the Browning Company, of Cleveland, Ohio.

J. E. Slimp, who has for many years been connected with the sales department of the Ohio Brass Company, Mansfield, Ohio, has resigned to become associated with H. C. Dodge, of Boston, who is at the head of several manufacturing companies in New England. Mr. Slimp will remain with the Ohio Brass Company until approximately April 1.

Edwin Besuden has been appointed eastern district manager of the railway department of the Chicago Varnish Company, in charge of steam and electric railway sales. His headquarters are at 50 Church street, New York. Mr. Besuden was formerly sales manager of the Jewett Car Company and was connected with that company for 16 years.

O. Edwin Berggren, whose appointment as Northwestern representative of the A. G. A. Railway Light & Signal Company, with headquarters at Chicago, was announced in the *Railway Age* of March 7, (page 564), was born in Chicago on August 1, 1881, and received his education in the Chicago grammar schools and a business college at Chicago. Mr. Berggren began his business career in the passenger department of the Northern Pacific at Chicago in March, 1900, where he remained for two years and then entered the freight department of the Wisconsin Central, at Chicago. From 1904 to 1907 he was in the sales department of the Pullman Company, and the following five years



O. E. Berggren

was connected with the John Peirce Company, Chicago, in the construction of buildings, resigning from that company to enter the employment of the H. W. Johns-Manville Company in the railroad and contract departments, at Chicago. Later he became associated with the International Refrigerating Manufacturing Company as traveling representative, in which capacity he continued for two years, after which he was employed by the Ford Manufacturing Company in the same capacity. Previous to his appointment as Northwestern representative of the A. G. A. Railway Light & Signal Company, Mr. Berggren was in the service of the Construction Material Company at Chicago as traveling representative.

John B. Canfield, who since March 1 has been associated with the Harley Company of Springfield, Mass., as special representative and counsel, commenced work in mechanical lines with the Boston & Albany, at Boston, Mass., in 1885, as machinist apprentice. He continued with the railroad as foreman machine shop, general foreman locomotive department and master mechanic of the Albany and Boston divisions, severing his connection with railroad work in 1916, after a continuous service of 30 years. In 1906, while in the railroad service as master mechanic at Boston, Mass., Mr. Canfield enrolled as a law student in the Boston Evening Institute, now the Northeastern College of Law, graduating in June,

1910, with the degree of LL.B., and was admitted to the Massachusetts bar September 23, 1910. At the time of his coming to the Harley Company, he was actively engaged in the practice of his profession at Springfield, Mass. During the war he served as major of engineers, and was commanding officer of the Sixth Battalion, 21st Engineers, being honorably discharged in January of this year.

George K. Heyer is the new assistant telephone sales manager of the Western Electric Company, having been advanced from the position of railway sales engineer. He has been an employee of the company since 1902, and always has been in New York. He will remain there as his headquarters will be at 195 Broadway. **E. V. Adams** succeeds G. K. Heyer as railway sales engineer of the Western Electric Company. He has been a Western Electric man since 1910, when he began in the railway sales department of the Chicago house. He was transferred to St. Louis in 1912, and the following year went to New York, where his headquarters will remain.

B. W. Matthews has been elected a director and a vice-president of the Joseph Richards Company, advertising specialists, New York. Mr. Matthews was graduated from Stevens Institute of Technology in 1908, having obtained some business experience by spending his summer vacations in the office of the principal assistant engineer of the Pennsylvania Railroad, Jersey division. From 1908 to 1910 he was an assistant engineer in connection with the building of the Belmont Tunnel in New York. For the two following years he was connected with the Bausch & Lomb Optical Co., Rochester, N. Y., as advertising and sales manager of the engineering instrument department. The next year he was advertising manager of the Keuffel & Esser Co., Hoboken, N. J., and in 1913 joined the service staff of the Simmons-Boardman Publishing Co. During this period, Mr. Matthews made the best of an opportunity to study the economic utility of various railway supplies from an advertising and sales standpoint, especially machinery and shop equipment, his studies taking him into some of the largest industrial plants and railroad shops in the United States. In February, 1917, Mr. Matthews joined the staff of the Joseph Richards Company. In the analysis and plan for the advertising of almost any kind of product, the need of a trained technical mind is now generally accepted. Mr. Matthews' education and business experience has been very largely along these lines.

LaSalle Portland Cement Company Sold

The plant of the LaSalle Portland Cement Company, LaSalle, Ill., formerly the German-American Portland Cement Works, was sold on March 11 by representatives of A. Mitchell Palmer, alien property custodian. The controlling interest in the stock was bid in by a group of cement manufacturers headed by A. C. Dustin of the Sandusky Cement Company of Cleveland, O., plants and including other successful bidders were A. Y. Gowen, vice-president of the Lehigh Portland Cement Company, Chicago, Charles Voettcher, president of the Cement Securities Company, Denver, Col., and C. H. McNiden, president and general manager of the Northwestern States Portland Cement Company, Mason City, Ia. The German-American Portland Cement Works was organized on December 5, 1899, with an authorized capital stock of \$450,000. The book value of the stock, as determined on January 31, by certified public accountants is about \$983,000 while the total value, according to the price paid at the sale is \$1,287,000 or about one third more than the book value. Of the 4,500 shares of stock, Mr. Dustin and the interests he represents purchased 3,687 shares.

The Bucyrus Company

According to the annual report of the Bucyrus Company of South Milwaukee, Wis., the net earnings for the year ending December 31, 1918, were \$658,403, after the deduction of a sum approximating the probable tax requirements under the war revenue act. During the year a one per cent dividend was paid quarterly on the preferred stock or a total paid during the year in dividends of \$160,000. The earned surplus at the end of the year was approximately 42 per cent of the preferred stock issued as compared with 30

per cent a year ago and the accumulated unpaid dividends thereon aggregated 25 per cent at the same date after deducting the dividend payable January 2, 1919.

W. W. Coleman in his statement to the stockholders said in part: "The high prices of materials, the relatively large volume of business and the necessity of financing the gold note issue authorized by the Board of Directors on May 29, 1917 (maturing June 15, 1918) at its maturity required the use of considerable sums of money and introduced larger problems of finance than the company has had occasion to deal with in previous years; the conservation of cash resources which has been the policy of this company made it possible to meet the requirements of the situation by current borrowing at favorable interest rates * * * The total shipments for the year were slightly in excess of those of the previous year."

The company has been extensively engaged in war work, especially in the building of "mobile derricks" and locomotive cranes for the U. S. Engineer Department, and in the machining and assembling of light artillery for the government. The cancellation of government contracts after the signing of the armistice found most of the contracts held by the Bucyrus Company practically completed or in such condition that no extremely difficult complications or serious disorganizations of working forces were involved and therefore the claims for adjustments to be presented to the government are not considerable in amount.

The balance sheet is as follows:

ASSETS	
Cash	\$212,744
Accounts and bills receivable.....	1,704,760
Inventories	3,158,603
Payments made on company and employees' subscriptions to Fourth Liberty Loan, other Liberty Bonds and War-Savings Certificates.....	\$147,977
Less bank loans therefor.....	104,160
Dominion of Canada Victory Loan Bonds.....	43,817
Land, buildings, machinery, patterns, securities, patents, etc....	24,525
	6,700,554
Total	\$11,845,003
LIABILITIES	
Bills payable	\$985,000
Accounts payable	373,045
Advance payments received.....	89,028
Preferred dividend payable January 2, 1919.....	40,000
Accrued taxes and sundry reserves.....	537,872
Capital Stock:	
Preferred (Auth. \$5,000,000) issued.....	\$4,000,000
Common (Auth. \$5,000,000) issued.....	4,000,000
	8,000,000
Surplus as at December 31, 1918.....	1,820,058
Total	\$11,845,003

Good Field Abroad for Electrical Machinery

E. M. Herr, president of the Westinghouse Electric & Manufacturing Company, believes that a reduction in the present high scale of wages to make possible a reduction in prices is necessary if the manufacturers of this country are to retain and to expand their foreign trade. He says, in a statement issued Monday by the American Manufacturers' Export Association, of which he is a director, that in his industry the development of a large export business would be rapid if it were not for the high prices which must now be charged for electrical machinery.

"It is encouraging to note," Mr. Herr says, "that there have been some very substantial decreases in the cost of a few of our raw materials, and if some yielding in the very high labor costs can also be obtained we would soon find an expansion of the export demand for electrical machinery that would more than compensate labor for any sacrifices in hourly rates by the longer hours and more continuous work which would result."

"Plans are already matured for the development of larger central electrical power stations in some of the more important industrial countries, and extensive projects for the electrification of some of their railroads are under way. The smaller and less economical steam plants will in this way be displaced by larger ones, and the demand for transmission devices and electrical machinery will be greatly increased."

"The largest electrical manufacturing companies abroad are in Germany, and it will be some time before they can operate advantageously. This gives American companies an

unusual opportunity, if promptly seized, to bring our exports of electrical machinery to an amount and value which might not have been possible under normal conditions. We also have the financial situation in our favor, for whereas before the war countries such as South America, South Africa, Australia, India, and China looked to London, Berlin, and Paris for credits and loans, now these facilities of commerce must be obtained in the United States. And unless we arrange to invest our capital in those countries, we cannot command our fair share of their trade, even though our prices may be competitive.

"In seeking electrical machinery business in export territory our agents must make their principals realize that the machinery we sell these people must be designed and built for their requirements and not, as has in the past too often been the case, as we are accustomed to build it. Much effort has been expended in trying to convince the foreign buyer that our styles and construction were best and should be satisfactory to him, instead of making an effort to ascertain what he desired and then furnishing it.

"In addition to adapting our goods to export requirements we must arrange to give service in this trade at least as good as in our domestic market. Too often export shipments have been delayed and foreign customers disappointed on account of the domestic demand becoming suddenly unusually active, when export orders were made to wait while the rush of domestic orders was worked off."

Westinghouse Electric Sells British Holdings

Announcement was made Monday that the Westinghouse Electric & Manufacturing Company has sold to British interests for approximately \$7,000,000 its holdings in Electric Holdings, Ltd., a concern which was organized in London in May, 1917, to take over the British Westinghouse Electric and Manufacturing Company.

In return for stock control of the latter the Westinghouse Electric received about half of the common stock of the Electric Holdings, Ltd., and \$6,500,000 of its ten-year 5 per cent prior lien bonds. These securities were sold in the transaction just completed as a result of negotiations conducted by Guy E. Tripp, chairman of the Westinghouse board, and a group of the company officials who sailed for England about a month ago.

The agreement of sale of control of the British Westinghouse Electric & Manufacturing Company to the London Interests was based on an alliance whereby the American concern was restricted to conducting business in the Western hemisphere and the Far East, while the European territory, Africa and Australia was given to the British.

American Steel Foundries

The annual report of the American Steel Foundries for the year ending December 31, 1918, shows net profits of \$2,695,727 after deductions for depreciation of \$426,412 and interest charges of \$136,497. The gross sales were \$49,113,098 as compared with \$49,369,584 for the previous year. The earnings after the deduction of manufacturing, selling, administrative, head and district office expenses, were approximately half of those of the previous year, or \$4,442,237.21 as compared with \$8,718,296 for 1917. The federal taxes for 1918 were \$1,357,200, whereas for 1917 they were \$2,287,600. The undivided surplus now stands at \$7,182,846 as compared with \$6,429,228 in 1917. Capital additions during the year totaled \$670,747 which consisted chiefly of extensions made to the Alliance, Ohio, and Indiana Harbor, Ind., plants of the company. Dividends on the basis of seven per cent annually were paid, involving a total of \$1,202,880 and there was made in the third and fourth quarter an extra disbursement of \$429,600 in Liberty Loan bonds on the basis of 1¼ per cent for each quarter. Substantially the entire product of the company's plant was for government work.

R. H. Ripley, acting president, in his report states: "Great changes in our financial statement since that issued for the nine months ending September 30, 1918, were made by events occurring subsequent thereto. It was not until the

latter part of the year that action on war profit and income taxes took definite form, upon which conclusions could be based and our statement reflects this situation. The armistice in November resulted, as was to be expected, in cancellation of large tonnages of our products, preparation for the production of which had already been made. The basic materials and all stores became uncertain as to price and value and it, therefore, appeared the part of wisdom to make drastic reduction of our inventories, which were abnormally large by reason of the condition brought about by the state of war and the necessary preparation for our continued participation therein. We cannot say what the year 1919 may hold for the company. It was not to be expected that the pace of business could be maintained, and curtailment of operation and earnings are to be expected for the present and perhaps until such time as some of the vital questions now pressing for settlement be disposed of definitely. The tonnage now on our books would under pre-war conditions justify the hope of a satisfactory year. A large volume of repair and renewal business has been held back during the war which if now released would favorably affect our situation. If, however, the plan under which the railroads are to be operated is not soon and wisely determined, we can look for little buying from this source and a correspondingly quiet year."

The balance sheet is as follows:

ASSETS	
Real estate, buildings, plant, machinery, tools, equipment, patents and good will, plus additions during the year—less depreciation reserve	\$21,302,455
Miscellaneous securities, inventories, accounts and bills receivable (less reserves) and cash	15,127,168
Deferred charges to operations	53,571
	\$36,483,194
LIABILITIES	
Capital stock (authorized and issued)	\$17,184,000
Four per cent debentures	1,372,800
Accounts payable and payrolls accrued, provision for war profits, income and other taxes and accrued interest on debentures ..	4,633,144
Reserves	797,000
Appropriated surplus	5,313,403
Undivided surplus	7,182,846
	\$36,483,194

Trade Publications

GRAPHITE PRODUCTS.—The Joseph Dixon Crucible Company, Jersey City, N. J., has issued a new pocket catalogue covering the various products handled by this concern. Several pages are devoted to lists of articles for special use in mills, on railroads, automobiles, etc., these lists being intended for reference to various subjects for which special pamphlets will be supplied.

AIRCO SERVICE.—The Air Reduction Sales Corporation, New York, has issued small folders illustrating and describing the work done by its equipment in repairing or building up broken or worn equipment used on railroads. Illustrations show the manner in which a broken locomotive cylinder casting has been restored and how worn track frogs are built up.

BLAW FORMS.—The Blaw-Knox Company, Pittsburgh, Pa., has issued a 24-page booklet describing and illustrating the forms manufactured by that company for use in building curbs, gutters, concrete pavements and sidewalks. Special designs are illustrated for each purpose named and illustrations show the adaptation of this equipment to different pieces of actual construction.

BASCULE BRIDGES.—The Strauss Bascul Bridge Company, Chicago, has issued a 70-page catalogue on the Strauss bridges, which contains a detailed exposition of the bascule and direct lift bridges developed by this company. The book also contains a partial list of the railway and highway bridges built according to these designs in various countries of the world and a list of 30 steam railways that have used the Strauss service.

GRAPHITE PRODUCTS.—A new pocket catalogue has been issued by the Joseph Dixon Crucible Company, Jersey City, N. J., entitled "Dixon's Graphite Products." While not a complete catalogue, it furnishes a good idea of the variety of products

made by this company. Pages are devoted to lists of articles especially for mills, railroads, automobiles, etc., with brief descriptions. Pamphlets dealing in detail with any one product may be had upon request.

WRENCHES.—The Coes Wrench Company, Worcester, Mass., has issued a 14-page catalogue dealing with the line of screw wrenches and accessories made by this company. These include steel, knife and hammer handle wrenches. Information is given regarding their construction, manufacture and strength compared with other wrenches, as shown by tests made at the Harvard University testing laboratory. The catalogue contains a number of illustrations.

FLANGING.—An attractive catalogue entitled "A Solution of Your Flanging Problems," containing 30 pages, 9 in. by 12 in., has been issued by the McCabe Manufacturing Company, Lawrence, Mass., illustrating and describing the wide range of work that can be done on the McCabe flanging machine, and showing economies that may be effected by its use. The greater part of the book is given over to illustrations showing finished products, such as various kinds of tanks, locomotive firebox and boiler sheets, steel car parts, etc.

CRANES FOR SHOPS, ROUNDHOUSES AND YARDS.—The Whiting Foundry Equipment Company, Harvey, Ill., has recently issued catalogue No. 135 superseding catalogue No. 127. This catalogue describes electric, pneumatic and hand power traveling cranes, locomotive and coach hoists, gantry traveling cranes, jib cranes and pillar cranes. It gives a general description not only of the cranes but also of the details such as cabs, trucks, brakes and electric equipment and discusses the field where the various types may be used to advantage. The illustrations show numerous typical installations on railroads.

LAKEWOOD CLAM SHELLS.—The Lakewood Engineering Company, Cleveland, Ohio, has published bulletin No. 26 containing 24 pages illustrative and descriptive of the Lakewood clam shell buckets. The first seven pages are devoted almost exclusively to large photographs showing a wide variety of the applications of these buckets to excavating and rehandling of material. Following this are several pages of drawings and tables showing the details of these buckets, the principal dimensions, etc. Two pages illustrate and list various classes of construction equipment manufactured by this company.

LIGHTING.—The National X-Ray Reflector Company, New York-Chicago, has issued a 246-page book, 8 in. by 10 in., bound in cloth, which is an exposition of the manner of lighting all kinds of interiors by the use of the X-Ray reflectors. This matter is divided into chapters dealing with such subjects as illumination from concealed sources, control of light, indirect lighting, direct lighting, etc. In each case general principles of illumination involved are presented first and followed by an explanation of the special application of the X-Ray equipment. A considerable portion of the book is devoted to descriptions of a large number of actual installations.

ASH DISPOSAL.—The American Steam Conveyor Corporation, New York, has issued a 160-page book on modern methods used in handling ashes in power plants. The first 32 pages are devoted to an exposition of the various methods in common use for the handling of ashes, including manual labor and the various mechanical and "current" methods. The remainder of the book is devoted to an explanation of the steam-jet conveyor method and its application to various types of boilers and furnaces together with a large number of descriptions and illustrations of actual installations of this equipment for office buildings, factories, railroads, etc.

BELT FASTENERS.—"The Crescent Principle of Belt Joining" is the title of a four-page bulletin issued by the Crescent Belt Fastener Company, New York, describing the fasteners made by this company for joining all kinds of belting. These are claimed to give a flush joint, allowing the belt to have continuous contact with the pulleys. Several illustrations show completed joints with the various kinds of fasteners. The method of making the joints is also explained and illustrated. A ready reference chart, by means of which a belt man or machinist can readily determine the correct type of belt fastener to use for any condition of service, is included in the bulletin.

Financial and Construction

Railway Financial News

BUFFALO, ROCHESTER & PITTSBURGH.—This company has applied to the New York Public Service Commission for approval of an issue of \$1,500,000 in 4½ per cent bonds, and authority to pledge the bonds, if not sold, as collateral to loans for extensions, betterments, improvements within the past five years.

ERIE.—Following a meeting of the executive committee, President F. D. Underwood announced that the company had concluded negotiations with the Railroad Administration by which it is assured an annual standard return of \$15,729,000. In addition the road will have an estimated non-operating income during 1919 of \$4,250,000, making its aggregate gross income for the current year \$19,974,000. On the above basis, after deducting interest charges, rentals, sinking fund requirements and other income, there should remain a surplus of \$5,320,000. With regard to the payment of \$15,000,000 Erie notes falling due April 1, Mr. Underwood stated that there were several plans under consideration with the Washington authorities and that a decision would probably be reached this week when it would be made public.

GEORGIA COAST & PIEDMONT.—The United District Court of Savannah has ordered the sale of this road May 6 on petition of David Loewenthal, of New York. A minimum price of \$300,000 has been set. The road, extending 100 miles from Collins, Ga., to Brunswick, has been in the hands of receivers since July 14, 1916.

GRAND TRUNK PACIFIC.—The receivership of this company is noticed in an editorial elsewhere in this issue.

LEHIGH VALLEY.—Henry S. Drinker, president of Lehigh University, who served as general solicitor of the Lehigh Valley Railroad from 1885 to 1905, has been elected a director to succeed William R. Butler, deceased.

NEW YORK, CHICAGO & ST. LOUIS.—This company has sold William A. Read & Co. \$4,000,000 second and improvement mortgage series A 6 per cent gold bonds. The new bonds are dated May 1, 1918, and mature on May 1, 1931. This is the first issue out of the total amount of \$25,000,000 authorized. Interest is payable semi-annually. An application will be made to list on the New York Stock Exchange, and the company agrees to pay the normal Federal income tax up to 2 per cent if exemption is not claimed by a bondholder. The new bonds are secured by direct mortgage lien upon the entire property of the company, subject to \$18,350,000 first mortgage sinking fund 4 per cent bonds due in 1937, outstanding, which cannot be increased in amount.

PENNSYLVANIA RAILROAD.—Stockholders of this company at their annual meeting on March 11 authorized an increase in indebtedness of \$75,000,000 and the acquisition of the Cumberland Valley Railroad. Directors of the railroad previously had approved the new issue, and while the stockholders ratified it, they also provided that a stock vote upon the increase in debt shall be taken March 25, the date of the annual election of officers. The \$75,000,000, it is proposed, will be raised in general mortgage bonds. The directors already had authority to increase the indebtedness of the company \$46,000,000, so that the action at this meeting and March 25 will raise the total to \$121,000,000.

Railway Construction

TEXAS ROADS.—O. B. Colquitt, president of the Eastland, Wichita Falls & Gulf Railway Company, and associates, have raised \$156,000 for the purpose of financing the first link in a railroad which they plan to build through the oil fields of central west Texas. The first link of seven miles will be built between Eastland, Texas, and Mangum for the purpose of relieving existing traffic congestion in this district. The proposed road will afford a connecting link between the Texas & Pacific and the Missouri, Kansas & Texas.

Railway Officers

Railroad Administration

Regional

The St. Louis, Troy & Eastern has been relinquished from Federal control according to an order issued by **A. S. Johnson**, terminal manager at St. Louis, Mo., and approved by **B. F. Bush**, regional director of the Southwestern region.

Federal and General Managers

William N. Neff, who has been appointed federal manager of the St. Louis Southwestern System, the Dallas Terminal, the Eastern Texas, the Southern Illinois & Missouri Bridge, and the Louisiana & Arkansas, with headquarters at Tyler, Texas, as was announced in our issue of last week, was born in 1874 at Lawrence, Kan., where he received a public school education. He entered the employ of the Missouri Pacific in 1889 as baggage master and was consecutively to 1891 assistant agent and operator. In 1891 he was promoted to chief clerk to the division superintendent and in 1893 became clerk to the roadmaster of the same road. From 1895 to 1896 he was a road clerk in the superintendent's office of the Great Northern. Subsequently he entered the employ of the Montana Central as telegraph operator and in 1897 again became a road clerk in the general superintendent's office of the Montana Central. In 1897 he returned to the employ of the Great Northern as clerk in the general superintendent's office and in the same year was appointed chief clerk to the superintendent. In 1898 he became chief clerk to the general superintendent and in 1899 assistant superintendent of the same road. In 1900 he became superintendent of the St. Louis Southwestern, later becoming superintendent of the St. Louis Southwestern of Texas, which position he held with the exception of one year during which he was chief clerk to the president of the same road until 1911, when he was appointed first vice-president and general superintendent of the St. Louis Southwestern of Texas and also general superintendent of the St. Louis Southwestern. In 1914 he was granted a leave of absence but was later appointed superintendent of the Northwestern Pacific at Sausalito, Cal. In 1917 he was again appointed vice-president and general manager of the St. Louis Southwestern of Texas and general manager of the St. Louis Southwestern, with headquarters at Tyler, Tex., in which position he continued after the railroads were taken over by the government.



W. N. Neff

Operating

John L. Wilkes has been appointed superintendent of the Washington division, Washington Terminals, with office at Washington, D. C., vice **Robin W. Farrell**.

F. Wear has been appointed superintendent of the Butte division of the Great Northern, with headquarters at Great Falls, Mont., to succeed **D. F. Dixon**, who has been assigned to other duties.

C. B. Dugan, whose appointment as superintendent of dining car service of the Illinois Central, the Yazoo & Missis-

sippi Valley and the Chicago, Memphis & Gulf, with headquarters at Chicago, was announced in the *Railway Age* of February 21, page 475, was born in Owego, N. Y., on June 2, 1865, and received his education in the public schools and high schools of Owego. In 1900, he entered railway service as a dining car conductor with the Pullman Company, in which capacity he served three and one-half years, when he was appointed inspector on the Erie, which position he held for nine years. In 1912, Mr. Dugan entered the service of the Illinois Central as inspector in which capacity he served for six years until his promotion to assistant superintendent of dining car service which position he held until his recent appointment.

Financial, Legal and Accounting

Charles H. Hueston whose appointment as acting federal treasurer and paymaster of the Des Moines Union, the Iowa Transfer, the Des Moines Western and the Des Moines Terminal, with headquarters at Des Moines, Iowa, was announced in the *Railway Age* of February 28 (page 521), was born at Spring Valley, Minn., on August 11, 1864, and received his education in the public and high schools of Spring Valley. Mr. Hueston entered railway service with the Chicago & North Western on April 8, 1886, where he remained for 17 years. The following sixteen years he served in the capacity of general superintendent of the Des Moines Western and the Des Moines Terminal, which position he held until his recent appointment as acting federal treasurer and paymaster.

Trace S. Ford, whose appointment as federal auditor of the Des Moines Union, the Des Moines Western, the Des Moines Terminal and the Iowa Transfer was announced in the *Railway Age* of February 28, page 521, began his railroad career with the Iowa Central in 1885. After eight years of service with that road, he entered the accounting department of the Oregon Railroad & Navigation Company, later serving in the same departments of the Chicago & Alton and the Chicago Great Western as clerk and chief clerk. Later he became connected with the New York City Street Railway, where he was engaged for two years on special accounting work. In 1910 he was appointed auditor of the St. Paul & Des Moines, and when that road was absorbed by the Chicago, Rock Island & Pacific, he became auditor of the Wichita Falls & Northwestern at Wichita Falls, Tex., and reorganized their accounting departments. When the Wichita Falls & Northwestern were taken over by the Missouri, Kansas & Texas, he entered the service of the San Antonio, Uvalde & Gulf as auditor, with headquarters at San Antonio, Tex., where he remained for three years. The following two years he served in the capacity of auditor and treasurer of the Pittsburgh, Lisbon & Western, resigning at the end of that time to accept the appointment as auditor of the Des Moines Union in September, 1918, which position he held until his recent appointment as federal auditor of the Des Moines Union, the Des Moines Western, the Des Moines Terminal and the Iowa Transfer.



T. S. Ford

Traffic

T. L. Peeler has been appointed industrial agent of the Missouri, Kansas & Texas, the Missouri, Kansas & Texas of Texas, the Wichita Falls & Northwestern, the Oklahoma Belt and the Missouri, Oklahoma & Gulf, with headquarters at Dallas, Texas.

D. M. Goodwyn, assistant freight traffic manager of the Louisville & Nashville, has been promoted to freight traffic manager, with headquarters at Louisville, Ky., to succeed **C. B. Compton**, deceased. The office of assistant freight traffic manager has been abolished.

M. J. Powers, formerly general passenger agent of the Delaware & Hudson, has been released from military service, and has resumed his duties with the title of assistant general passenger agent of the Delaware & Hudson; the Greenwich & Johnsonville; the Schoharie Valley; the Champlain Transportation Company, and the Lake George Steamboat Company. **Walter C. Harden**, assistant general passenger agent, has been appointed district passenger agent in charge of dining car service, and performing such other duties as may be assigned to him; both with offices at Albany, N. Y.

R. B. Robertson has been appointed general freight agent of the Chicago, Indianapolis & Louisville, with headquarters at Chicago. Mr. Robertson was born in Milwaukee, Wis., on April 18, 1879, and began his railway career in the traffic department of the Wisconsin Central in 1898. In 1901, he entered the service of the Monon as soliciting agent, and the following ten years he served in the capacity of traveling freight agent and commercial agent with headquarters at Milwaukee when he was appointed general agent at Chicago on July 3, 1912. On January 1, 1915, he was promoted to division freight agent, and on March 1 of the same year he was appointed assistant general freight agent of the same road. Mr. Robertson was furloughed to the war department on May 1, 1918, receiving the title of assistant chief of inland traffic service, with headquarters at Chicago. In this capacity he had jurisdiction over the movement of troops and war department property in the middle west. He succeeds **J. A. Simmons**, who will confine his attention to freight traffic matters on the Cincinnati, Indianapolis & Western as general freight agent, with headquarters at Indianapolis, Ind.

Norman W. Pringle, assistant general passenger agent of the Lehigh Valley, has been promoted to general passenger agent, with headquarters at New York. He was born on



N. W. Pringle

August 11, 1881, at Huntingdon, Que., and began railway work November 1, 1902, with the Rutland Railroad in the freight house at Rutland, Vt. Six months later he entered the passenger department, and subsequently was traveling passenger agent on the same road. In May, 1909, he went to the Lehigh Valley, and served as New England agent at New Haven, Conn., until December, 1914, when he was appointed division passenger agent, with office at Buffalo, N. Y. In October, 1916, he was

transferred in the same capacity to Ithaca, from which position he was promoted in December, 1917, to assistant general passenger agent, with office at New York, and now becomes general passenger agent of the same road, also the Susquehanna & New York, and the Buffalo Creek Railroad.

Engineering and Rolling Stock

W. Y. Scott, assistant signal engineer of the Boston & Maine, with office at Boston, Mass., has been appointed signal engineer, with the same headquarters, succeeding **J. V. Young**, deceased.

O. H. Frick, field engineer on valuation work with the Chicago, Milwaukee & St. Paul, has been appointed district engineer of the Middle district, with headquarters at Milwaukee, Wis., succeeding **Charles Lapham**.

The jurisdiction of **A. H. Yocum**, signal engineer of the Philadelphia & Reading, the Atlantic City Railroad and the Port Reading, has been extended over the Central of New Jersey and the New York & Long Branch, with office at Philadelphia, Pa.

W. L. Webb, district engineer of the Chicago, Milwaukee & St. Paul, with office at Chicago, has been assigned to special work in connection with the Chicago Union Station, and **Lieutenant C. F. Urbutt**, formerly in the construction quartermaster's department of the United States army, succeeds Mr. Webb as district engineer.

C. W. Mathews, master mechanic of the Cincinnati Terminals and Kentucky division of the Louisville & Nashville, with office at Covington, Ky., has been transferred to the Albany (Ala.) shops, vice **C. J. Bodemer**, assigned to other duties; **W. E. Hunter**, master mechanic of the Knoxville and Atlanta divisions, at Etowah, Tenn., has been transferred to the Cincinnati Terminals and Kentucky division, which office at Covington, vice Mr. Mathews, and **G. H. Berry**, succeeds Mr. Hunter.

Robert H. Ford, whose appointment as principal assistant engineer of the Chicago, Rock Island & Pacific, with headquarters at Chicago, was announced in the *Railway Age* of



R. H. Ford

March 7 (page 568), is a graduate of Norwich University, Northfield, Vt. He began his railway career with the Central Vermont with which road he was engaged in various road-way, engineering and construction capacities. In 1906 he went with the Missouri Pacific as maintenance of way inspector and the following year he was appointed principal assistant engineer of the system. In 1910 he resigned from the above road to become chief engineer of the Hodges-Downey Construction Co.,

general railway contractors, in which capacity he served for two years. He then entered the employ of the Chicago, Rock Island & Pacific as special engineer. Previous to his recent appointment as principal assistant engineer he was engineer of track elevation in charge of general construction and special work, principally in the Chicago district.

Purchasing

George W. Snyder, assistant engineer of maintenance of way on the Pennsylvania Railroad, at Philadelphia, has been appointed to the newly created position of general storekeeper for the Pennsylvania, lines east, with office at Philadelphia, Pa.

Corporate

Executive, Financial, Legal and Accounting

W. F. Kennedy has been appointed auditor of the Louisville & Nashville, for the corporation, and **R. J. Wagoner** has been appointed assistant auditor; both with offices at Louisville, Ky.

Operating

Walter T. Moodie, whose appointment as superintendent of Division No. 1 of the Central district of the Canadian National, was announced in the *Railway Age* of February 7, 1919, page 424, was born at Glasgow, Scotland, on March 10, 1882, and received his education in the Allen-Glen School at Glasgow and Scotland Technical College. He began his railway

service on March, 1903, as assistant engineer, with the Caledonian railway. From 1905 to 1908 he was engaged as assistant engineer on the location and construction of the Central South African Railway, and the following three years served as assistant engineer on the Canadian Northern, until he was appointed engineer of maintenance of way, in which capacity he continued for four years. In October, 1915, he was promoted to the office of district engineer in which position he remained until his recent appointment as superintendent of the Canadian National.

Traffic

W. T. Marlow has been appointed general freight agent of the Canadian Pacific Ocean Services, Limited, in charge of freight traffic, Atlantic and Pacific services. **G. D. Robinson** has been appointed European freight agent, and **G. C. Dew** has been appointed Asiatic freight agent; all with offices at Montreal, Que.

George Stephen, who has been appointed freight traffic manager of the Canadian National Railways, with office at Toronto, Ont., as has already been announced in these columns, was born on July 5, 1876, and began railway work in June, 1889, as a junior clerk in the foreign freight department of the Canadian Pacific, at Montreal, Que. He remained in that department at Montreal and later at St. John, N. B., until August, 1899, and was then appointed chief clerk in the general freight office at Winnipeg, Man. From July, 1900, to the following January, he was traveling freight agent in the western provinces, and subsequently served as contracting freight agent, in British Columbia on the same road. From June, 1901, to December, 1906, he was chief clerk in the general freight office of the Canadian Northern, at Winnipeg, and then was assistant general freight agent. He was promoted to general freight agent in May, 1909, and in November, 1916, became freight traffic manager of the same road, in charge of the territory from Port Arthur to Duluth, west to the Pacific Coast, with office at Winnipeg, which position he held at the time of his recent appointment as freight traffic manager of the Canadian National Railways, as above noted.

R. E. Larmour, general agent of the freight department of the Canadian Pacific, with office at New York, has been promoted to general freight agent with headquarters at Montreal, Que. He was born on September 26, 1869, at Brantford, Ont., and began railway work on the Grand Trunk as a clerk in the office of his father, who was a division superintendent. He served on that road consecutively at London, at Windsor and at Detroit, until November, 1898, when he resigned to go to the Canadian Pacific as chief clerk in the freight office at Winnipeg, Man. He subsequently served consecutively as acting agent, general clerk in the superintendent's office at Ft. William, agent at Port Arthur, freight claim agent at Vancouver, B. C., and at Winnipeg, Man., and as general agent at Ft. William. From July, 1908, to June, 1909, he served as general freight agent of the Kootenay and Boundary districts, at Nelson, B. C., and the following June was transferred to the Central division, at Winnipeg. In June, 1911, he was appointed division freight agent, at Vancouver, B. C., and in July, 1914, was appointed assistant general freight agent at the same place. Since October, 1915, he has served as general agent of the freight department at New York, and now becomes general freight agent, with office at Montreal, of the same road, as above noted.



R. E. Larmour

Obituary

Frank D. Hurst, division freight agent of the New York Central, with headquarters at Youngstown, Ohio, died on March 8, at Santa Fe, N. M., at the age of 49.

James Balkwill, superintendent of the Canada division of the Michigan Central, with headquarters at St. Thomas, Ont., died suddenly of heart disease while traveling from Fargo, N. D., to St. Thomas. Mr. Balkwill was 51 years of age.

A. F. Page, trainmaster of the Illinois Central, with office at Louisville, Ky., died on March 8, from the effects of injuries received when he jumped from a fast moving automobile which he thought was about to collide with a locomotive.

Sir Guy Calthrop, Bt., general manager of the London & North Western Railway of England, and (since 1917) controller of coal mines under the British government, died on February 23, in London, at the age of 49. In 1886 he began railway work as a junior at Euston Station, becoming in 1892 outdoor assistant to the superintendent, and in 1901, assistant to the general manager. In 1902 he went to the Caledonian Railway as general superintendent, and later until 1910 was general manager of that road. He was appointed general manager of the Buenos Ayres & Pacific Railway in 1910, and four years later returned to the service of the London & North Western as general manager.

John J. Harrower, for many years secretary of the Eastern Railroad Association, died at his home in Washington, D. C., on January 9, 1919, at the age of 78. His service began with the organization of the association, on February 6, 1867, and extended over more than 50 years. At that time, Mr. Harrower was a clerk in the office of Daniel L. Harris, president of the Connecticut River Railroad and the first secretary of the association. On January 1, 1879, when the office of the association was moved to Boston, he severed his connection with the Connecticut River Railroad and became an exclusive employee of the association. He was elected secretary in May, 1887, and filled that position until May, 1918.

Edward Francis Kearney, president of the Wabash, died at his home in St. Louis, Mo., after a few days' illness of pneumonia. He was born on March 27, 1865, and began railway work in 1882 as a telegraph operator for the Pennsylvania Lines. He remained with that road until February, 1903, being employed respectively as freight clerk, chief operator in the superintendent's office, train dispatcher, trainmaster's clerk, chief clerk to superintendent and trainmaster. The following year he was superintendent of the Terminal Railroad Association of St. Louis and the St. Louis Merchants' Bridge Terminal Railway, going to the Chicago, Rock Island & Pacific in February, 1904, as supervisor of mails. From April to October of that year he was superintendent of transportation on the St. Louis & San Francisco. In April, 1905, he was appointed superintendent of terminals of the Missouri Pacific at St. Louis and in February, 1908, was promoted to superintendent of transportation of that road and the St. Louis, Iron Mountain & Southern. He was made general superintendent of transportation in January, 1913, and three months later was elected first vice-president of the Texas & Pacific, with headquarters at New Orleans, La. Mr. Kearney held the latter office when he was appointed receiver of the Wabash in 1915, and was later elected president of that road, which position he held until the time of his death.



E. F. Kearney